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(FILE 'HOME' ENTERED AT 09:20:01 ON 19 DEC 2002)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 09:20:23 ON 19 DEC 2002

L1 4 S MLK4  
L2 91135 S "ULTRAVIOLET RADIATION"  
L3 17 S "C-JUN N-TERMIAL KINASE KINASE KINASE" OR "JNKKK"  
L4 2 S L1 AND L3  
L5 1 DUP REM L4 (1 DUPLICATE REMOVED)  
L6 1 S L2 AND L3  
L7 5732102 S CLON? OR EXPRESS? OR RECOMBINANT  
L8 12 S L3 AND L7  
L9 4 DUP REM L8 (8 DUPLICATES REMOVED)  
E BLUMENBERG M/AU  
L10 437 S E3  
L11 1 S L3 AND L10  
L12 2 S L10 AND L2  
L13 2 DUP REM L12 (0 DUPLICATES REMOVED)  
E GAZEL A M/AU  
L14 1 S E3  
L15 1483 S L2 AND KINASE?  
L16 735 S L7 AND L15  
L17 425 S L16 AND HUMAN  
L18 89038 S KERATINOCYT?  
L19 91 S L17 AND L18  
L20 60 DUP REM L19 (31 DUPLICATES REMOVED)  
L21 1 S L20 AND L1

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NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
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NEWS 3	Apr 09	BEILSTEIN: Reload and Implementation of a New Subject Area
NEWS 4	Apr 09	ZDB will be removed from STN
NEWS 5	Apr 19	US Patent Applications available in IFICDB, IFIPAT, and IFIUDB
NEWS 6	Apr 22	Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS
NEWS 7	Apr 22	BIOSIS Gene Names now available in TOXCENTER
NEWS 8	Apr 22	Federal Research in Progress (FEDRIP) now available
NEWS 9	Jun 03	New e-mail delivery for search results now available
NEWS 10	Jun 10	MEDLINE Reload
NEWS 11	Jun 10	PCTFULL has been reloaded
NEWS 12	Jul 02	FOREGE no longer contains STANDARDS file segment
NEWS 13	Jul 22	USAN to be reloaded July 28, 2002; saved answer sets no longer valid
NEWS 14	Jul 29	Enhanced polymer searching in REGISTRY
NEWS 15	Jul 30	NETFIRST to be removed from STN
NEWS 16	Aug 08	CANCERLIT reload
NEWS 17	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS 18	Aug 08	NTIS has been reloaded and enhanced
NEWS 19	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS 20	Aug 19	IFIPAT, IFICDB, and IFIUDB have been reloaded
NEWS 21	Aug 19	The MEDLINE file segment of TOXCENTER has been reloaded
NEWS 22	Aug 26	Sequence searching in REGISTRY enhanced
NEWS 23	Sep 03	JAPIO has been reloaded and enhanced
NEWS 24	Sep 16	Experimental properties added to the REGISTRY file
NEWS 25	Sep 16	Indexing added to some pre-1967 records in CA/CAPLUS
NEWS 26	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS 27	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS 28	Oct 21	EVENTLINE has been reloaded
NEWS 29	Oct 24	BEILSTEIN adds new search fields
NEWS 30	Oct 24	Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 31	Oct 25	MEDLINE SDI run of October 8, 2002
NEWS 32	Nov 18	DKILIT has been renamed APOLLIT
NEWS 33	Nov 25	More calculated properties added to REGISTRY
NEWS 34	Dec 02	TIBKAT will be removed from STN
NEWS 35	Dec 04	CSA files on STN
NEWS 36	Dec 17	PCTFULL now covers WP/PCT Applications from 1978 to date
NEWS 37	Dec 17	TOXCENTER enhanced with additional content
NEWS 38	Dec 17	Adis Clinical Trials Insight now available on STN
NEWS EXPRESS	October 14	CURRENT WINDOWS VERSION IS V6.01, CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP), AND CURRENT DISCOVER FILE IS DATED 01 OCTOBER 2002
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=> file medline embase biosis biotechds scisearch hcaplus ntis lifesci  
COST IN U.S. DOLLARS                      SINCE FILE              TOTAL  
FULL ESTIMATED COST                      ENTRY              SESSION  
   0.21              0.21

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FILE 'EMBASE' ENTERED AT 09:20:23 ON 19 DEC 2002  
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FILE 'SCISEARCH' ENTERED AT 09:20:23 ON 19 DEC 2002  
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FILE 'HCAPLUS' ENTERED AT 09:20:23 ON 19 DEC 2002  
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FILE 'LIFESCI' ENTERED AT 09:20:23 ON 19 DEC 2002  
COPYRIGHT (C) 2002 Cambridge Scientific Abstracts (CSA)

=> s mlk4

L1                      4 MLK4

=> s "ultraviolet radiation"

L2                      91135 "ULTRAVIOLET RADIATION"

=> s "c-jun N-termial kinase kinase kinase" or "JNKKK"

L3                      17 "C-JUN N-TERMIAL KINASE KINASE KINASE" OR "JNKKK"

=> s l1 and l3

L4                      2 L1 AND L3

=> dup rem l4

PROCESSING COMPLETED FOR L4

L5                      1 DUP REM L4 (1 DUPLICATE REMOVED)

=> d all

L5              ANSWER 1 OF 1 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI  
AN              2001-08201 BIOTECHDS  
TI              New polynucleotides encoding a c-Jun N-terminal kinase kinase kinases  
                 i.e. **MLK4**, PAK4, associated with skin damage for use in drug

screening and development;

vector-mediated gene transfer, expression in host cell, antisense oligonucleotide and ribozyme for recombinant protein production and disease gene therapy

AU Blumenberg M; Gazel A M

PA Univ.New-York

LO New York, NY, USA.

PI EP 1085093 21 Mar 2001

AI EP 2000-307866 12 Sep 2000

PRAI US 1999-155029 20 Sep 1999

DT Patent

LA English

OS WPI: 2001-236883 [25]

AB The human DNA sequences as defined by protein sequences of the: **MLK4** gene containing 54 amino acids (I); **PAK4** gene containing 48 amino acids (II); **PAK5** gene containing 48 amino acids (III), 311 amino acids (IV) or 681 amino acids (V); and the **YSK** gene containing 48 amino acids (VI) (all specified), are claimed. Also claimed are: a recombinant vector containing (I-VI) or derivatives of (I-VI); a host cell containing the vector; a substantially purified or isolated protein (VII) containing a protein sequence selected from (I-VI); preparation of (VII) by culturing the host cell under conditions that allow expression of the protein and recovering the protein; an antibody specific to a protein containing (I-VI); screening compounds (e.g. antisense oligonucleotides or ribozymes) that affect the cellular levels of c-Jun N-terminal kinase kinase kinase (**JNKKK**) gene product; screening compounds that affect the activity of a **JNKKK**; identifying a binding partner of **YSK2**; and detection of an **MLK4**-, **PAK4**-, **PAK5**- or **YSK2**-related DNA in a sample. The new DNA sequences encoding a **JNKKK** protein, which is associated with skin damage is useful in drug screening. (51pp)

CC D PHARMACEUTICALS; D3 Peptides and Proteins; D PHARMACEUTICALS; D7 Clinical Genetic Techniques; A GENETIC ENGINEERING AND FERMENTATION; A1 Nucleic Acid Technology

CT RECOMBINANT C-JUN N-TERMINAL KINASE KINASE KINASE PREP., VECTOR-MEDIATED GENE TRANSFER, EXPRESSION IN HOST CELL, ANTISENSE OLIGONUCLEOTIDE, RIBOZYME, APPL. DRUG SCREENING, DISEASE GENE THERAPY ENZYME RNA ENZYME DNA SEQUENCE PROTEIN SEQUENCE (VOL.20, NO.16)

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FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 09:20:23 ON 19 DEC 2002

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L4 2 S L1 AND L3  
L5 1 DUP REM L4 (1 DUPLICATE REMOVED)

=> s l2 and l3

L6 1 L2 AND L3

=> d all

L6 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2002 ACS

AN 2001:207982 HCAPLUS

DN 134:232725

TI Human genes and polynucleotides encoding novel c-Jun N-terminal kinase kinase kinases **MLK4**, **PAK4**, **PAK5**, and **YSK2** expressed in keratinocytes and

uses thereof  
 IN Blumenberg, Miroslov; Gazel, Alix M.  
 PA New York University, USA  
 SO Eur. Pat. Appl., 51 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC ICM C12N015-54  
 ICS C12N009-12; C07K016-40; C12Q001-68; C12Q001-48; G01N033-68  
 CC 3-3 (Biochemical Genetics)  
 Section cross-reference(s): 1, 7, 13, 15  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1085093	A2	20010321		
	EP 1085093	A3	20021030	EP 2000-307866	20000912
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001157590	A2	20010612	JP 2000-284980	20000920
PRAI	US 1999-155029P	P	19990920		
AB	The invention relates to novel human polynucleotides and their encoded gene products which are the c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2. CDNAs encoding novel proteins with sequence homol. to c-Jun N-terminal kinase kinase kinases were cloned from human epidermal keratinocytes by RT-PCR using primers which correspond to the kinase domain. MRNAs for these kinases were detected in various tissues, including keratinocytes. Expression of the PAK5 mRNA is induced by UV-A light, while YSK2 mRNA is induced by UV-C light. A complete genomic sequence for the human PAK5 gene was obtained. The PAK5 gene was mapped to human chromosome 15 by its phys. linkage to a PLC-2 gene in a P1 genomic clone. The invention claims polynucleotides which are homologous to MLK4, PAK4, PAK5, and YSK2 genes and which can be detected using probes derived from the claimed sequences. In addn., the invention claims methods of using the disclosed polynucleotides and their gene products in drug discovery, esp. in screening for drugs that can reduce UV light-induced damage of the skin and inflammation.				
ST	sequence cDNA human PAK4 MLK4 YSK2 protein kinase <b>JNKKK</b> ; PAK5 gene JNK kinase keratinocyte UV induction mRNA				
IT	Protein motifs ( <b>JNKKK</b> kinase domain; human genes encoding novel protein kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes)				
IT	Kidney Pancreas (PAK4 and MLK4; tissue expression of human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2)				
IT	Brain (PAK4, PAK5; tissue expression of human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2)				
IT	Genetic linkage (PAK5 gene; human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes)				
IT	UV A radiation (PAK5 gene; human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes and in response to UV light)				
IT	UV C radiation (YSK2 gene; human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes and in response to UV light)				
IT	Transcriptional regulation (activation; human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes and in				

- response to UV light)
- IT Proteins, specific or class  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (complexes; human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes and useful for drug discovery)
- IT Probes (nucleic acid)  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (for MLK4-, PAK4-, PAK5-, or YSK2-related; human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes and useful for drug discovery)
- IT Gene, animal  
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence); USES (Uses)  
 (for protein kinase PAK5; human genes encoding novel c-Jun N-terminal kinase kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes)
- IT Gene, animal  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (for protein kinases MLK4, PAK4, and YSK2; human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes)
- IT Chromosome  
 (human 15, PAK5 gene; human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes)
- IT Molecular cloning  
 (human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes)
- IT mRNA  
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); OCCU (Occurrence); USES (Uses)  
 (human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes)
- IT Antibodies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes)
- IT Animal cell  
 Animal tissue  
 Skin  
 Stress, animal
- UV radiation**  
 (human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes and in response to UV light)
- IT Drug screening  
 Laboratory animal  
 Molecular association  
 (human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes and useful for drug discovery)
- IT Cytokines  
 RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)  
 (inflammatory; human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes)

and useful for drug discovery)

IT Skin  
(keratinocyte, PAK4, PAK5, MLK4; tissue expression of human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2)

IT DNA sequences  
(of PAK5 gene isolated from human)

IT Protein sequences  
cDNA sequences  
(of protein kinases MLK4, PAK4, PAK5, and YSK2 isolated from human)

IT 247196-35-6 330487-79-1 330556-53-1 330556-59-7 330556-60-0  
330556-62-2  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)  
(amino acid sequence; of human MLK4, PAK4, PAK5, and YSK2 kinases)

IT 330457-49-3, c-Jun N-terminal kinase kinase  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes)

IT 220064-77-7, Protein kinase PAK4 247112-13-6, Protein kinase PAK5  
330457-81-3, MLK4 protein kinase 330457-84-6, Protein kinase YSK2  
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)  
(human genes encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes)

IT 330487-77-9 330487-78-0  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)  
(nucleotide sequence; DNA sequence of human MLK4, PAK4, PAK5, and YSK2 kinases)

IT 330487-73-5 330487-74-6 330487-75-7 330487-76-8 330490-57-8  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)  
(nucleotide sequence; cDNA sequence of human MLK4, PAK4, PAK5, and YSK2 kinases)

IT 330491-84-4 330491-85-5 330491-86-6 330491-87-7 330491-88-8  
330491-89-9  
RL: PRP (Properties)  
(unclaimed nucleotide sequence; human genes and polynucleotides encoding novel c-Jun N-terminal kinase kinase kinases MLK4, PAK4, PAK5, and YSK2 expressed in keratinocytes and uses thereof)

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FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 09:20:23 ON 19 DEC 2002

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L5 1 DUP REM L4 (1 DUPLICATE REMOVED)  
L6 1 S L2 AND L3

=> s clon? or express? oe recombinant  
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SEARCH ENDED BY USER  
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=> s clon? or express? or recombinant  
4 FILES SEARCHED...  
L7 5732102 CLON? OR EXPRESS? OR RECOMBINANT

=> s 13 and 17  
L8 12 L3 AND L7

=> dup rem 18  
PROCESSING COMPLETED FOR L8  
L9 4 DUP REM L8 (8 DUPLICATES REMOVED)

=> d 1-4 ibib ab

L9 ANSWER 1 OF 4 MEDLINE DUPLICATE 1  
ACCESSION NUMBER: 2002661945 IN-PROCESS  
DOCUMENT NUMBER: 22309224 PubMed ID: 12421372  
TITLE: Identification of JNK-dependent and -independent components  
of cerebellar granule neuron apoptosis.  
AUTHOR: Harris Charles; Maroney Anna C; Johnson Jr Eugene M  
CORPORATE SOURCE: Departments of Molecular Biology and Pharmacology and  
Neurology, Washington University School of Medicine, St  
Louis, Missouri, USA Cephalon Inc., West Chester,  
Pennsylvania, USA.  
SOURCE: JOURNAL OF NEUROCHEMISTRY, (2002 Nov) 83 (4) 992-1001.  
Journal code: 2985190R. ISSN: 0022-3042.  
PUB. COUNTRY: England: United Kingdom  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: IN-PROCESS; NONINDEXED; Priority Journals  
ENTRY DATE: Entered STN: 20021108  
Last Updated on STN: 20021212

AB Cerebellar granule neurons grown in high potassium undergo rapid apoptosis when switched to medium containing 5 mM potassium, a stimulus mimicking deafferentation. This cell death can be blocked by genetic deletion of Bax, a member of the pro-apoptotic Bcl-2 family, cycloheximide an inhibitor of macromolecular synthesis or **expression** of dominant-negative c-jun. These observations suggest that Bax activation is the result of c-jun target gene(s) up-regulation following trophic withdrawal. Candidate genes include the BH3-only Bcl-2 family members Dp5 and Bim. The molecular mechanisms underlying granule cell neuronal apoptosis in response to low potassium were investigated using CEP-1347 (KT7515), an inhibitor of the MLK family of **JNKKK**. CEP-1347 provided protection of potassium-serum-deprived granule cells, but such neuroprotection was not long term. The incomplete protection was not due to incomplete blockade of the JNK signaling pathway because c-jun phosphorylation as well as induction of c-jun RNA and protein were completely blocked by CEP-1347. Following potassium-serum deprivation the JNKK MKK4 becomes phosphorylated, an event blocked by CEP-1347. Cells that die in the presence of CEP-1347 activate caspases; and dual inhibition of caspases and MLKs has additive, not synergistic, effects on survival. A lack of synergism was also seen with the p38 inhibitor SB203580, indicating that the neuroprotective effect of the JNK pathway inhibitor cannot be explained by p38 activation. Activation of the JNK signaling pathway seems to be a key event in granule cell apoptosis, but these neurons cannot survive long term in the absence of sustained PI3 kinase signaling.

L9 ANSWER 2 OF 4 MEDLINE  
ACCESSION NUMBER: 2002096084 MEDLINE  
DOCUMENT NUMBER: 21683411 PubMed ID: 11825878  
TITLE: Activation of the JNK pathway during dorsal closure in  
Drosophila requires the mixed lineage kinase, slipper.



AUTHOR: Stronach Beth; Perrimon Norbert  
CORPORATE SOURCE: Department of Genetics, Howard Hughes Medical Institute,  
Harvard Medical School, Boston, Massachusetts 02115, USA.  
CONTRACT NUMBER: GM19775 (NIGMS)  
SOURCE: GENES AND DEVELOPMENT, (2002 Feb 1) 16 (3) 377-87.  
Journal code: 8711660. ISSN: 0890-9369.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200202  
ENTRY DATE: Entered STN: 20020205  
Last Updated on STN: 20020301  
Entered Medline: 20020228

AB The Jun kinase (JNK) pathway has been characterized for its role in stimulating AP-1 activity and for modulating the balance between cell growth and death during development, inflammation, and cancer. Six families of mammalian kinases acting at the level of **JNKKK** have emerged as upstream regulators of JNK activity (MLK, LZK, TAK, ASK, MEKK, and TPL); however, the specificity underlying which kinase is utilized for transducing a distinct signal is poorly understood. In *Drosophila*, JNK signaling plays a central role in dorsal closure, controlling cell fate and cell sheet morphogenesis during embryogenesis. Notably, in the fly genome, there are single homologs of each of the mammalian **JNKKK** families. Here, we identify mutations in one of those, a mixed lineage kinase, named slipper (*slpr*), and show that it is required for JNK activation during dorsal closure. Furthermore, our results show that other putative **JNKKKs** cannot compensate for the loss of *slpr* function and, thus, may regulate other JNK or MAPK-dependent processes.

L9 ANSWER 3 OF 4 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI  
ACCESSION NUMBER: 2001-08201 BIOTECHDS

TITLE: New polynucleotides encoding a c-Jun N-terminal kinase kinase kinases i.e. MLK4, PAK4, associated with skin damage for use in drug screening and development;  
vector-mediated gene transfer, **expression** in host cell, antisense oligonucleotide and ribozyme for **recombinant** protein production and disease gene therapy

AUTHOR: Blumenberg M; Gazel A M  
PATENT ASSIGNEE: Univ.New-York  
LOCATION: New York, NY, USA.  
PATENT INFO: EP 1085093 21 Mar 2001  
APPLICATION INFO: EP 2000-307866 12 Sep 2000  
PRIORITY INFO: US 1999-155029 20 Sep 1999  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: WPI: 2001-236883 [25]

AB The human DNA sequences as defined by protein sequences of the: MLK4 gene containing 54 amino acids (I); PAK4 gene containing 48 amino acids (II); PAK5 gene containing 48 amino acids (III), 311 amino acids (IV) or 681 amino acids (V); and the YSK gene containing 48 amino acids (VI) (all specified), are claimed. Also claimed are: a **recombinant** vector containing (I-VI) or derivatives of (I-VI); a host cell containing the vector; a substantially purified or isolated protein (VII) containing a protein sequence selected from (I-VI); preparation of (VII) by culturing the host cell under conditions that allow **expression** of the protein and recovering the protein; an antibody specific to a protein containing (I-VI); screening compounds (e.g. antisense oligonucleotides or ribozymes) that affect the cellular levels of c-Jun N-terminal kinase kinase kinase (**JNKKK**) gene product; screening compounds that affect the activity of a **JNKKK**; identifying a

binding partner of YSK2; and detection of an MLK4-, PAK4-, PAK5- or YSK2-related DNA in a sample. The new DNA sequences encoding a **JNKKK** protein, which is associated with skin damage is useful in drug screening. (51pp)

L9 ANSWER 4 OF 4 MEDLINE  
 ACCESSION NUMBER: 2001200195 MEDLINE  
 DOCUMENT NUMBER: 21184106 PubMed ID: 11287182  
 TITLE: The role of the Drosophila TAK homologue dTAK during development.  
 AUTHOR: Mihaly J; Kockel L; Gaengel K; Weber U; Bohmann D; Mlodzik M  
 CORPORATE SOURCE: EMBL, Developmental Biology Programme, Meyerhofstrasse 1, 69117, Heidelberg, Germany.  
 SOURCE: MECHANISMS OF DEVELOPMENT, (2001 Apr) 102 (1-2) 67-79. Journal code: 9101218. ISSN: 0925-4773.  
 PUB. COUNTRY: Ireland  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 200108  
 ENTRY DATE: Entered STN: 20010820  
 Last Updated on STN: 20010820  
 Entered Medline: 20010816

AB The TAK kinases belong to the MAPKKK group and have been implicated in a variety of signaling events. Originally described as a TGF-beta activated kinase (TAK) it has, however, subsequently been demonstrated to signal through p38, Jun N-terminal kinase (JNK) and Nemo types of MAP kinases, and the NFkappaB inducing kinase. Despite these multiple proposed functions, the in vivo role of TAK family kinases remains unclear. Here we report the isolation and genetic characterization of the Drosophila TAK homologue (dTAK). By employing overexpression and double-stranded RNA interference (RNAi) techniques we have analyzed its function during embryogenesis and larval development. Overexpression of dTAK in the embryonic epidermis is sufficient to induce the transcription of the JNK target genes decapentaplegic and puckered. Furthermore, overexpression of dominant negative (DN) or wild-type forms of dTAK in wing and eye imaginal discs, respectively, results in defects in thorax closure and ommatidial planar polarity, two well described phenotypes associated with JNK signaling activity. Surprisingly, RNAi and DN-dTAK **expression** studies in the embryo argue for a differential requirement of dTAK during developmental processes controlled by JNK signaling, and a redundant or minor role of dTAK in dorsal closure. In addition, dTAK-mediated activation of JNK in the Drosophila eye imaginal disc leads to an eye ablation phenotype due to ectopically induced apoptotic cell death. Genetic analyses in the eye indicate that dTAK can also act through the p38 and Nemo kinases in imaginal discs. Our results suggest that dTAK can act as a **JNKKK** upstream of JNK in multiple contexts and also other MAPKs in the eye. However, the loss-of-function RNAi studies indicate that it is not strictly required and thus either redundant or playing only a minor role in the context of embryonic dorsal closure.

=> e blumenberg m/au

E1	4	BLUMENBERG KLAUS DIETER/AU
E2	2	BLUMENBERG L/AU
E3	437 -->	BLUMENBERG M/AU
E4	7	BLUMENBERG M */AU
E5	2	BLUMENBERG M A/AU
E6	12	BLUMENBERG MARTIN/AU
E7	3	BLUMENBERG MIKI/AU
E8	1	BLUMENBERG MIROLSAV/AU

E9	89	BLUMENBERG MIROSLAV/AU
E10	3	BLUMENBERG NOVOSELAC N/AU
E11	3	BLUMENBERG R/AU
E12	66	BLUMENBERG R M/AU

=> s e3

L10 437 "BLUMENBERG M"/AU

=> d his

(FILE 'HOME' ENTERED AT 09:20:01 ON 19 DEC 2002)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 09:20:23 ON 19 DEC 2002

L1 4 S MLK4  
 L2 91135 S "ULTRAVIOLET RADIATION"  
 L3 17 S "C-JUN N-TERMIAL KINASE KINASE KINASE" OR "JNKKK"  
 L4 2 S L1 AND L3  
 L5 1 DUP REM L4 (1 DUPLICATE REMOVED)  
 L6 1 S L2 AND L3  
 L7 5732102 S CLON? OR EXPRESS? OR RECOMBINANT  
 L8 12 S L3 AND L7  
 L9 4 DUP REM L8 (8 DUPLICATES REMOVED)  
 E BLUMENBERG M/AU  
 L10 437 S E3

=> s l3 and l10

L11 1 L3 AND L10

=> d all

L11 ANSWER 1 OF 1 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI  
 AN 2001-08201 BIOTECHDS  
 TI New polynucleotides encoding a c-Jun N-terminal kinase kinase kinases  
 i.e. MLK4, PAK4, associated with skin damage for use in drug screening  
 and development;  
 vector-mediated gene transfer, expression in host cell, antisense  
 oligonucleotide and ribozyme for recombinant protein production and  
 disease gene therapy  
 AU **Blumenberg M**; Gazel A M  
 PA Univ.New-York  
 LO New York, NY, USA.  
 PI EP 1085093 21 Mar 2001  
 AI EP 2000-307866 12 Sep 2000  
 PRAI US 1999-155029 20 Sep 1999  
 DT Patent  
 LA English  
 OS WPI: 2001-236883 [25]  
 AB The human DNA sequences as defined by protein sequences of the: MLK4 gene  
 containing 54 amino acids (I); PAK4 gene containing 48 amino acids (II);  
 PAK5 gene containing 48 amino acids (III), 311 amino acids (IV) or 681  
 amino acids (V); and the YSK gene containing 48 amino acids (VI) (all  
 specified), are claimed. Also claimed are: a recombinant vector  
 containing (I-VI) or derivatives of (I-VI); a host cell containing the  
 vector; a substantially purified or isolated protein (VII) containing a  
 protein sequence selected from (I-VI); preparation of (VII) by culturing  
 the host cell under conditions that allow expression of the protein and  
 recovering the protein; an antibody specific to a protein containing  
 (I-VI); screening compounds (e.g. antisense oligonucleotides or  
 ribozymes) that affect the cellular levels of c-Jun N-terminal kinase  
 kinase kinase (**JNKKK**) gene product; screening compounds that  
 affect the activity of a **JNKKK**; identifying a binding partner

of YSK2; and detection of an MLK4-, PAK4-, PAK5- or YSK2-related DNA in a sample. The new DNA sequences encoding a **JNKKK** protein, which is associated with skin damage is useful in drug screening. (51pp)  
CC D PHARMACEUTICALS; D3 Peptides and Proteins; D PHARMACEUTICALS; D7 Clinical Genetic Techniques; A GENETIC ENGINEERING AND FERMENTATION; A1 Nucleic Acid Technology  
CT RECOMBINANT C-JUN N-TERMINAL KINASE KINASE KINASE PREP., VECTOR-MEDIATED GENE TRANSFER, EXPRESSION IN HOST CELL, ANTISENSE OLIGONUCLEOTIDE, RIBOZYME, APPL. DRUG SCREENING, DISEASE GENE THERAPY ENZYME RNA ENZYME DNA SEQUENCE PROTEIN SEQUENCE (VOL.20, NO.16)

=> d his

(FILE 'HOME' ENTERED AT 09:20:01 ON 19 DEC 2002)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS, LIFESCI' ENTERED AT 09:20:23 ON 19 DEC 2002

L1 4 S MLK4  
L2 91135 S "ULTRAVIOLET RADIATION"  
L3 17 S "C-JUN N-TERMINAL KINASE KINASE KINASE" OR "JNKKK"  
L4 2 S L1 AND L3  
L5 1 DUP REM L4 (1 DUPLICATE REMOVED)  
L6 1 S L2 AND L3  
L7 5732102 S CLON? OR EXPRESS? OR RECOMBINANT  
L8 12 S L3 AND L7  
L9 4 DUP REM L8 (8 DUPLICATES REMOVED)  
E BLUMENBERG M/AU  
L10 437 S E3  
L11 1 S L3 AND L10

=> s l10 and l2

L12 2 L10 AND L2

=> dup rem l12

PROCESSING COMPLETED FOR L12

L13 2 DUP REM L12 (0 DUPLICATES REMOVED)

=> d 1-2 ibib ab

L13 ANSWER 1 OF 2 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI  
ACCESSION NUMBER: 2002-13244 BIOTECHDS

TITLE: Detecting exposure of a cell, especially keratinocyte to **ultraviolet radiation**, by measuring levels of several RNAs or proteins in cell and establishing a pattern of expression which indicates UV radiation exposure; c-fos and interleukin-6 expression profiling using DNA array and bioinformatic software for cancer and skin aging diagnosis and gene therapy

AUTHOR: **BLUMENBERG M**  
PATENT ASSIGNEE: UNIV NEW YORK SCHOOL MEDICINE  
PATENT INFO: WO 2002020849 14 Mar 2002  
APPLICATION INFO: WO 2000-US28214 8 Sep 2000  
PRIORITY INFO: US 2000-231061 8 Sep 2000  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: WPI: 2002-383057 [41]

AB DERWENT ABSTRACT:

NOVELTY - Detecting (M) exposure of a cell to ultraviolet (UV) radiation, comprising measuring levels of several RNA or protein molecules in the cell after UV exposure, is new. The response i.e. a pattern of altered expression of the cell to UV radiation exposure is established and

indicates that the cell was exposed to UV radiation. The cell comprises at least one of first, second and third response.

DETAILED DESCRIPTION - Detecting (M) exposure of a cell to ultraviolet (UV) radiation, comprising measuring the levels of several RNA molecules or proteins in the cell for at least one time point after UV radiation exposure to establish a pattern of expression, the response of the cell to UV radiation exposure involves: (1) a first response comprising altered expression of the nucleic acid molecule (NA) encoding a transcription factor protein, a NA encoding a signal transducing protein and a NA encoding a mitochondrial protein, or altered expression of the encoded proteins; (2) a second response comprising an altered expression of a NA encoding a secreted growth factor, a NA encoding cytokine, and a NA encoding chemokine, or altered expression of the encoded proteins; and (3) a third response comprising altered expression of a NA encoding an actin-binding protein, a NA encoding a desmosomal protein, and a NA encoding a tubulin protein, or an altered expression of the encoded proteins, where if the pattern of expression for the cell is similar to the response of the cell to UV radiation, the cell was exposed to UV radiation. An INDEPENDENT CLAIM is also included a composition comprising several NAs capable of detecting altered expression due to exposure to UV radiation, the NAs chosen from first, second and third response groups, and a substrate suitable for binding the NAs. WIDER DISCLOSURE - A pharmaceutical composition for modulating the response of a cell to UV radiation exposure, comprising a compound to modulate the response of the cell to UV radiation exposure.

BIOTECHNOLOGY - Preferred Method: The pattern consists of first, second and/or third response. The UV radiation exposure comprises energy at a wavelength of 220-440 nm, preferably 290-320 nm or 320-330 nm, and a total energy exposure of 0.2-40 mJ/cm<sup>2</sup>. The pattern further comprises the first, second and third responses being 0.5-2, 4-8 and 16-24 hours, respectively, post-exposure to UV radiation. The altered expression comprise an increase or decrease in RNA or protein level. The first, second and third response comprises altered expression of at least three nucleic acid molecules, each being 90 % identical to a polynucleotide listed in the specification. An altered pattern of expression is determined by gene expression analysis, comprising measuring the levels of several RNA molecules or protein in the cell for at least one time point after UV radiation exposure to establish a test pattern of expression, and comparing the test pattern of expression the response of a cell to UV radiation exposure. If the pattern of expression for the cell is similar to the response of the cell to UV radiation, the cell was exposed to UV radiation. The levels of several protein molecules are measured by enzyme linked immunosorbent assay (ELISA). The levels of several RNA molecules in the cell is measured by expression array analysis, comprising isolating RNA from the cell post-UV radiation exposure, creating a test expression array by nucleic acid hybridization between a labeled probe complementary to the RNA and an expression array substrate, analyzing the test expression array to create a test expression array data set and comparing the test expression array data set to a control expression array data set, and analyzing the levels of several RNA molecules to establish a pattern of expression or response pattern of the cell. Expression of the cell to UV radiation is indicated by the altered pattern of expression by first, second and third response groups.

ACTIVITY - Cytostatic; Keratolytic.

MECHANISM OF ACTION - Gene therapy. No biological data is given.

USE - The method is useful for detecting exposure of a cell such as keratinocyte, Langerhans cell, melanocyte or fibroblast cell to UV radiation (claimed), for detecting skin damage in response to UV radiation. The UV radiation of regulated nucleic acid molecules and proteins are useful in the design of therapeutic methods for the treatment or prevention of premature aging of the skin and of skin

cancers and other disorders of an individual. The method is also useful for identifying a compound including protein, nucleic acid molecules, carbohydrates, lipids, that modulate response of a cell to UV radiation exposure. The compounds are useful for treatment and/or prophylaxis of premalignant actinic keratosis, malignant epidermal tumors, benign keratinocytic tumors and malignant melanoma. ADMINISTRATION - Administered by topical, intradermal, intravenous intraperitoneal, intramuscular, oral or subcutaneous route. No dosage is given.

EXAMPLE - Cultures of epidermal keratinocytes from human foreskin were initiated using 3T3 feeder layers and then stored frozen in liquid N<sub>2</sub>. Once thawed, the keratinocytes were grown without feeder cells in defined serum-free keratinocyte growth medium (KGM) supplemented with 0.05 g/l bovine pituitary extract, 5 ng/ml epidermal growth factor, and 1 % penicillin/streptomycin. They were trypsinized with 0.025 % trypsin, which was neutralized with 0.5 mg/ml trypsin inhibitor. For ultraviolet (UV)-A radiation, an illuminator specifically equipped to produce light output in the UV-A radiation wavelength range was used. The medium was removed from the cell cultures, and keratinocytes were irradiated in open dishes. Immediately after the UV-A radiation exposure, the same medium was replaced to the cultures. Control cells were subjected to the identical procedure but were only sham-irradiated. Keratinocyte cultures were irradiated with a single dose of UV-A radiation and harvested the cells 0.5, 1, 2, 4, 8, 16 and 24 hours later. The specific wavelength of UV-A radiation was 315-390 nm. As controls, mock-irradiated cells were harvested 1, 4, 8, 16 and 24 hours after the treatment. Cells were harvested and total RNAs were prepared. Before they were used for gene array hybridization, the RNAs were tested in Northern Blot hybridizations with a probe corresponding to the c-fos gene. For Northern blotting, 10 micro-g RNA was loaded on a 1 % agarose-formaldehyde gel and run at 100 V for 3-4 hours. The RNA was transferred overnight to a nylon membrane. The probes for c-fos and IL-6 were synthesized using reverse transcription-polymerase chain reaction from keratinocyte RNA. Additional probes were derived from cDNA clones obtained from the American Type Culture collection. Hybridizations were performed using ExpressHyb solution. The membrane was exposed to Kodak BIOMAX MS film at -80 degrees C, and radiographs were scanned and analyzed. Labeled cRNA was hybridized to the HU6800 array. Differential expression was determined by calculating the ratio between signal intensity value from UV radiation exposed cells and control cells. For data interpretation, the Cluster and Tree View software were used. A data set containing the expression patterns of 311 regulated genes was clustered in two ways, based on the similarity of gene expression over the time course of 24 hours and based on the similarity between different time points. The clusters were observed using Tree View program. (274 pages)

L13 ANSWER 2 OF 2 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI  
ACCESSION NUMBER: 2002-11785 BIOTECHDS

TITLE: Detecting compounds that modulate a cellular response to  
**ultraviolet radiation** exposure, involves  
contacting the cell with a test compound and exposing the  
cell to the radiation;  
cell response modulation, UV radiation, RNA molecule  
measurement, human recombinant protein expression and DNA  
array useful for drug screening, and disease

AUTHOR: BLUMENBERG M  
PATENT ASSIGNEE: UNIV NEW YORK STATE  
PATENT INFO: WO 2002020846 14 Mar 2002  
APPLICATION INFO: WO 2000-US28040 8 Sep 2000  
PRIORITY INFO: US 2000-231454 8 Sep 2000  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: WPI: 2002-292272 [33]

## DERWENT ABSTRACT:

**NOVELTY** - Detecting a compound that modulates a response of a cell to **ultraviolet radiation** exposure, comprising contacting the cell with the compound, exposing the cell to **ultraviolet radiation** that would otherwise induce the response, and measuring the levels of RNA molecules in the cell for at least one time point after exposure, is new.

**DETAILED DESCRIPTION** - Detecting a compound that modulates a response of a cell to **ultraviolet radiation** exposure, comprising contacting the cell with the compound, exposing the cell to **ultraviolet radiation** that would otherwise induce the response, and measuring the levels of RNA molecules in the cell for at least one time point after exposure, is new. The response is an expression pattern comprising altered expression of: (a) nucleic acids encoding a transcription factor, a signal transduction protein, and a mitochondrial protein; (b) nucleic acids encoding a secreted growth factor, a cytokine, and a chemokine; and/or (c) nucleic acids encoding an actin-binding protein, a desmosomal protein, and a tubulin protein. **INDEPENDENT CLAIMS** are also included for the following: (1) detecting a compound that modulates a cell response to **ultraviolet radiation** exposure, comprising: (a) contacting the cell with the compound; (b) exposing the cell to **ultraviolet radiation** that would normally cause altered expression of: (i) a transcription factor protein, a signal transduction protein, and a mitochondrial protein; (ii) a secreted growth factor, a cytokine protein, and a chemokine protein; and/or (iii) an actin-binding protein, a desmosomal protein, and a tubulin protein; (c) measuring the level of protein molecules in the cell for at least one time point after exposure; (2) detecting a compound that stimulates a response of a cell to **ultraviolet radiation** exposure, comprising: (a) contacting the cell with the compound; (b) measuring the level of an RNA, or a protein molecule in the cell; and (c) determining if the level is similar to that found in a cell exposed to **ultraviolet radiation**, where the RNA response detected is the same as the novel method, and the protein expression response is the same as method (1); (3) the novel method where the levels of RNA molecules are determined by gene array expression analysis; (4) the method of (1) where the levels of proteins are determined by gene array expression analysis; and (5) a pharmaceutical composition comprising a compound identified by the novel method, or the method of (1)-(5).

**BIOTECHNOLOGY** - Preferred Method: The cell is contacted with the compound in vivo, or in vitro. The irradiation is energy at a wavelength of 220-440, preferably 290-320, or 320-440 nm. The exposure comprises a total energy of 0.2-40 mJ/cm<sup>2</sup>. The protein is encoded by, and the nucleic acid expressed is: M62831 Human transcription factor ETR101 mRNA complete cds, X68277 H. sapiens CL 100 mRNA for protein tyrosine phosphatase, L04731 H. sapiens translocation T(4:11) of ALL-1 gene to chromosome 4, X56681 Human junD mRNA, U20734 Human transcription factor jubB gene, 5' region and complete cds, L38951 H. sapiens importin-beta subunit mRNA, complete cds, D87071 Human mRNA for KIAA0233 gene, complete cds, M72885 Human GOS2 gene, 5' flank and cds, M92843 H. sapiens zinc finger transcriptional regulator mRNA, complete cds, S81914 IEX-1= radiation-inducible immediate-early gene, U72649 Human BTG2 mRNA, complete cds, D86988 Human mRNA for KIAA0221 gene, complete cds, L19779 H. sapiens histone H2A.2 mRNA, complete cds, U62317 Chromosome 22q13 BAC clone CIT987SK-384D8 complete sequence, X04412 Human mRNA for plasma gelsolin, L27706 Human chaperonin protein gene complete cds, X61123 Human BTG1 mRNA, M60974 growth arrest and DNA-damage-inducible protein mRNA, complete cds, L19437 Human transaldolase mRNA containing transposable element, complete cds, X57985 H. sapiens gene for histones H2B.1 and H2A, D90086 Human pyruvate dehydrogenase-beta subunit gene, exons 1-10, M34182 Human testis-specific protein kinase-gamma subunit mRNA, complete cds,

L16863 H. sapiens G protein-coupled receptor kinase mRNA, complete cds,  
 D13705 Human mRNA for fatty acids omega hydroxylase complete cds, U37122  
 Human adducin-gamma subunit mRNA, complete cds, D45906 H. sapiens mRNA  
 for LIMK-2, complete cds, U07664 Human HB9 homeobox gene, exons 2 and 3  
 and complete cds, D87438 Human mRNA for KIAA0251 gene, partial cds,  
 L37042 H. sapiens casein kinase I alpha isoform mRNA, complete cds,  
 D14043 Human mRNA for MGC-24, complete cds, D13988 Human rab GDI mRNA,  
 complete cds, U28480 Uncoupling Protein Uc, D50840 H. sapiens mRNA for  
 ceramide glucosyltransferase, complete cds, M55265 Human casein kinase  
 II-alpha subunit mRNA, complete cds, M96803 Human general beta-spectrin  
 mRNA, complete cds, U89336 Human HLA class III region containing NOTCH4  
 gene, partial sequence, homeobox P, D87442 Human mRNA for KIAA0253 gene,  
 partial cds, J03161 Human serum response factor mRNA, complete cds,  
 D86965 Human mRNA for KIAA0210 gene, complete cds, U17327 Human neuronal  
 nitric oxide synthase-1 mRNA, complete cds, D86966 H. sapiens mRNA for  
 KIAA0211 gene, complete cds, D85527 H. sapiens mRNA for LIM domain,  
 partial cds, U42031 Human 54 kDa progesterone receptor-associated  
 immunophilin FKBP54 mRNA, partial, X59434 Human rohu mRNA for rhodese,  
 M13929 Human c-yc-P64 mRNA initiating from promoter P0 partial cds,  
 J05211 Desmoplakin, M57731 Human gro-beta mRNA, complete cds, S81914  
 IEX-1= radiation-inducible immediate-early gene, Y00787 Human mRNA for  
 MDNCF, X54489 Human gene for melanoma growth stimulatory activity, M72885  
 Human GOS2 gene, 5' flank and cds, M62831 Human transcription factor  
 ETR101 mRNA, complete cds, M28130 Human interleukin-8 gene, complete cds,  
 X57985 H. sapiens gene for histone H2B.1 and H2A, X53800 Human mRNA for  
 macrophage inflammatory protein-2 beta, L19779 H. sapiens IPL mRNA,  
 complete cds, AF001294 H. sapiens IPL mRNA, complete cds, X56681 Human  
 junD mRNA, S75763 Oncogene Tls/Chop, fusion activate, M84739 Human  
 autoantigen calreticulin mRNA, complete cds, M21302 Human small protein  
 rich protein mRNA, clone 174N, V00599 Tubulin, Bet, X70326 Macmarck,  
 D10923 Human mRNA for HM74, D64142 Human mRNA for histone H1x, complete  
 cds, D86974 Human mRNA for KIAA0220 gene, partial cds, M60974 Human  
 growth arrest and DNA-damage-inducible protein, X68277 H. sapiens CL100  
 mRNA for protein tyrosine phosphatase, L13391 Human helix-loop-helix  
 basic phosphoprotein gene, complete cds, M31627 Human X box binding  
 protein-1 mRNA, complete cds, U40369 Human spermidine/spermine  
 N1-acetyltransferase gene, complete cds, X52560 nuclear factor, nf-II,  
 X61123 Human BTG1 mRNA, U20734 Human transcription factor junB gene, 5'  
 region and complete cds, U35048 Human TSC022 protein mRNA, complete cds,  
 M69043 H. sapiens MAD-3 mRNA encoding Ikb-like activity, complete cds,  
 X51345 Human junB mRNA, S68616 Na<sup>+</sup>/H<sup>+</sup> exchanger NHE-1 isoform, X89750 H.  
 sapiens mRNA for TGIF protein, X69111 H. sapiens HLH 1R21 mRNA, U14603  
 Human protein-tyrosine phosphatase mRNA, partial sequence, X52541 Human  
 mRNA for early growth response protein 1, D50683 H. sapiens mRNA for  
 TGF-beta IIR-alpha, complete cds, M92843 H. sapiens zinc finger  
 transcriptional regulator mRNA, complete cds, X91247 H. sapiens mRNA for  
 thioredoxin reductase, U05875 Human clone pSK1 interferon-gamma receptor  
 accessory factor-1, mRNA, L19314 Human HRY gene, complete cds, M30703  
 Human amphiregulin gene exon 6, clones lambda-ATH(6,12), U34252 Human  
 gamma-aminobutyraldehyde dehydrogenase mRNA, complete cds, S78825 Id1,  
 D85429 H. sapiens gene for heat shock protein 40, complete cds, U41766  
 Human metalloprotease/disintegrin/cysteine-rich protein precursor mRNA,  
 U89336 Human HLA class III region containing NOTCH4 gene, partial  
 sequence, homeobox PB, M69181 Human nonmuscle myosin heavy chain-B mRNA,  
 partial cds, D15050 Human mRNA for transcription factor AREB6, complete  
 cds, U28386 Human nuclear localization sequence receptor hSRP1-alpha  
 mRNA, complete cds, L77886 Human protein tyrosine phosphatase mRNA,  
 complete cds, X64330 H. sapiens mRNA for ATP-citrate lyase, U37122 Human  
 adducin-gamma subunit mRNA, complete cds, X74008 H. sapiens mRNA for  
 protein phosphatase-1 gamma, U60205 Human methyl sterol oxidase mRNA,  
 complete cds, X76534 H. sapiens NMB mRNA, D87071 Human mRNA for KIAA0233,  
 U90716 Human cell surface protein HCAR mRNA, complete cds, M91083 Human



DNA-binding protein mRNA, complete cds, U29607 Human methionine aminopeptidase mRNA, complete cds, or one of 262 sequences, given in the specification. The cell is an epidermal cell, or preferably a keratinocyte, a Langerhans cell, a melanocyte or a fibroblast cell. The RNA or protein is isolated 0.5-2, 4-8 or 16-24 hours post-radiation. The contact is topical. The levels of proteins are measured by enzyme linked immunosorbent assay (ELISA).

ACTIVITY - Cytostatic; Dermatological. No biological data is given.

MECHANISM OF ACTION - **Ultraviolet radiation** exposure response modulator.

USE - For detecting compounds which modulates cellular response to **ultraviolet radiation** exposure, useful for identifying pharmaceuticals (claimed), e.g. against cancer, or premature aging.

EXAMPLE - No relevant examples are given. (459 pages)

=> e gazel a m/au

E1	4	GAZEK F A/AU
E2	5	GAZEL A/AU
E3	1 -->	GAZEL A M/AU
E4	2	GAZEL ALAIN/AU
E5	1	GAZEL ALIX M/AU
E6	1	GAZEL ANDRE/AU
E7	2	GAZEL C/AU
E8	1	GAZEL CHARLES/AU
E9	2	GAZEL D/AU
E10	2	GAZEL DE LA CONTRIE D/AU
E11	3	GAZEL I/AU
E12	1	GAZEL J/AU

=> s e3

L14 1 "GAZEL A M"/AU

=> d all

L14 ANSWER 1 OF 1 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI  
AN 2001-08201 BIOTECHDS

TI New polynucleotides encoding a c-Jun N-terminal kinase kinase kinases i.e. MLK4, PAK4, associated with skin damage for use in drug screening and development;

vector-mediated gene transfer, expression in host cell, antisense oligonucleotide and ribozyme for recombinant protein production and disease gene therapy

AU Blumenberg M; **Gazel A M**

PA Univ.New-York

LO New York, NY, USA.

PI EP 1085093 21 Mar 2001

AI EP 2000-307866 12 Sep 2000

PRAI US 1999-155029 20 Sep 1999

DT Patent

LA English

OS WPI: 2001-236883 [25]

AB The human DNA sequences as defined by protein sequences of the: MLK4 gene containing 54 amino acids (I); PAK4 gene containing 48 amino acids (II); PAK5 gene containing 48 amino acids (III), 311 amino acids (IV) or 681 amino acids (V); and the YSK gene containing 48 amino acids (VI) (all specified), are claimed. Also claimed are: a recombinant vector containing (I-VI) or derivatives of (I-VI); a host cell containing the vector; a substantially purified or isolated protein (VII) containing a protein sequence selected from (I-VI); preparation of (VII) by culturing the host cell under conditions that allow expression of the protein and recovering the protein; an antibody specific to a protein containing

(I-VI); screening compounds (e.g. antisense oligonucleotides or ribozymes) that affect the cellular levels of c-Jun N-terminal kinase kinase kinase (JNKKK) gene product; screening compounds that affect the activity of a JNKKK; identifying a binding partner of YSK2; and detection of an MLK4-, PAK4-, PAK5- or YSK2-related DNA in a sample. The new DNA sequences encoding a JNKKK protein, which is associated with skin damage is useful in drug screening. (51pp)

CC

D PHARMACEUTICALS; D3 Peptides and Proteins; D PHARMACEUTICALS; D7 Clinical Genetic Techniques; A GENETIC ENGINEERING AND FERMENTATION; A1 Nucleic Acid Technology

CT

RECOMBINANT C-JUN N-TERMINAL KINASE KINASE KINASE PREP., VECTOR-MEDIATED GENE TRANSFER, EXPRESSION IN HOST CELL, ANTISENSE OLIGONUCLEOTIDE, RIBOZYME, APPL. DRUG SCREENING, DISEASE GENE THERAPY ENZYME RNA ENZYME DNA SEQUENCE PROTEIN SEQUENCE (VOL.20, NO.16)

=>

=> d 1-60 ibib

L20 ANSWER 1 OF 60 BIOTECHDS COPYRIGHT 2002 THOMSON DERWENT AND ISI  
ACCESSION NUMBER: 2002-11785 BIOTECHDS  
TITLE: Detecting compounds that modulate a cellular response to  
**ultraviolet radiation** exposure, involves  
contacting the cell with a test compound and exposing the  
cell to the radiation;  
cell response modulation, UV radiation, RNA molecule  
measurement, **human recombinant** protein  
**expression** and DNA array useful for drug  
screening, and disease  
AUTHOR: BLUMENBERG M  
PATENT ASSIGNEE: UNIV NEW YORK STATE  
PATENT INFO: WO 2002020846 14 Mar 2002  
APPLICATION INFO: WO 2000-US28040 8 Sep 2000  
PRIORITY INFO: US 2000-231454 8 Sep 2000  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
OTHER SOURCE: WPI: 2002-292272 [33]

L20 ANSWER 2 OF 60 HCAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2002:185375 HCAPLUS  
DOCUMENT NUMBER: 136:212895  
TITLE: Screening methods to identify compounds that modulate  
a gene **expression** response of a cell to  
**ultraviolet radiation** exposure  
INVENTOR(S): Blumenberg, Miroslav  
PATENT ASSIGNEE(S): New York University, USA  
SOURCE: PCT Int. Appl., 459 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002020846	A2	20020314	WO 2001-US28040	20010907
W: AU, CA, JP, SG				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
US 2002090624	A1	20020711	US 2001-947870	20010906
AU 2001090658	A5	20020322	AU 2001-90658	20010907
PRIORITY APPLN. INFO.:			US 2000-231454P	P 20000908
			WO 2001-US28040	W 20010907

L20 ANSWER 3 OF 60 HCAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2002:814743 HCAPLUS  
DOCUMENT NUMBER: 137:336734  
TITLE: **Cloning** and characterization of  
**human** interleukin-1.epsilon.  
INVENTOR(S): Sims, John E.; Smith, Dirk E.  
PATENT ASSIGNEE(S): USA  
SOURCE: U.S. Pat. Appl. Publ., 35 pp., Cont.-in-part of U.S.  
Ser. No. 763,498.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002155506	A1	20021024	US 2001-970033	20011002
WO 2000011174	A1	20000302	WO 1999-US18771	19990820

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

US 1998-97413P	P	19980821
US 1998-98595P	P	19980831
US 1998-99974P	P	19980911
WO 1999-US18771	A2	19990820
US 2001-763498	A2	20010515
US 2001-313110P	P	20010816

L20 ANSWER 4 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)

ACCESSION NUMBER: 2002:841238 SCISEARCH

THE GENUINE ARTICLE: 601AX

TITLE: The role of p38 in UVA-induced cyclooxygenase-2 **expression** in the **human keratinocyte** cell line, HaCaT

AUTHOR: Bachelor M A; Silvers A L; Bowden G T (Reprint)

CORPORATE SOURCE: Univ Arizona, Arizona Canc Ctr, Dept Radiat Oncol, 1515 N Campbell Ave, Tucson, AZ 85724 USA (Reprint); Univ Arizona, Arizona Canc Ctr, Dept Radiat Oncol, Tucson, AZ 85724 USA

COUNTRY OF AUTHOR: USA

SOURCE: ONCOGENE, (10 OCT 2002) Vol. 21, No. 46, pp. 7092-7099. Publisher: NATURE PUBLISHING GROUP, MACMILLAN BUILDING, 4 CRINAN ST, LONDON N1 9XW, ENGLAND. ISSN: 0950-9232.

DOCUMENT TYPE: Article; Journal

LANGUAGE: English

REFERENCE COUNT: 54

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 5 OF 60 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.

ACCESSION NUMBER: 2002167639 EMBASE

TITLE: The role of PI 3-**kinase** in the UVB-induced **expression** of c-fos.

AUTHOR: Gonzales M.; Bowden G.T.

CORPORATE SOURCE: G.T. Bowden, 1515 N. Campbell, Tucson, AZ 85724, United States. tbowden@azcc.arizona.edu

SOURCE: Oncogene, (18 Apr 2002) 21/17 (2721-2728). Refs: 45

ISSN: 0950-9232 CODEN: ONCNES

COUNTRY: United Kingdom

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 013 Dermatology and Venereology  
016 Cancer  
022 Human Genetics

LANGUAGE: English

SUMMARY LANGUAGE: English

L20 ANSWER 6 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)

ACCESSION NUMBER: 2002:437391 SCISEARCH

THE GENUINE ARTICLE: 552GP

TITLE:

Oxidative stress mediates cell surface **expression** of SS-A/Ro antigen on **keratinocytes**

AUTHOR:

Saegusa J; Kawano S; Koshiba M; Hayashi N; Kosaka H; Funasaka Y; Kumagai S (Reprint)

CORPORATE SOURCE:

Kobe Univ, Grad Sch Med, Dept Clin Pathol & Immunol, Chuo Ku, 7-5-1 Kusunoki Cho, Kobe, Hyogo 6500017, Japan (Reprint); Kobe Univ, Grad Sch Med, Dept Clin Pathol & Immunol, Chuo Ku, Kobe, Hyogo 6500017, Japan; Kobe Univ, Grad Sch Med, Dept Dermatol, Kobe, Hyogo 6500017, Japan; Kobe Univ Hosp, Dept Clin Lab, Kobe, Hyogo, Japan

COUNTRY OF AUTHOR:

Japan

SOURCE:

FREE RADICAL BIOLOGY AND MEDICINE, (15 MAY 2002) Vol. 32, No. 10, pp. 1006-1016.

Publisher: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND.

ISSN: 0891-5849.

DOCUMENT TYPE:

Article; Journal

LANGUAGE:

English

REFERENCE COUNT:

52

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 7 OF 60

ACCESSION NUMBER:

HCAPLUS COPYRIGHT 2002 ACS

DOCUMENT NUMBER:

2002:126902 HCAPLUS

TITLE:

136:321332

.alpha.-Melanocyte stimulating hormone potentiates p16/CDKN2A **expression** in human skin after ultraviolet irradiation

AUTHOR(S):

Pavey, Sandra; Gabrielli, Brian

CORPORATE SOURCE:

Joint Oncology Program, Department of Pathology, University of Queensland, Brisbane, 4006, Australia Cancer Research (2002), 62(3), 875-880

SOURCE:

CODEN: CNREA8; ISSN: 0008-5472

PUBLISHER:

American Association for Cancer Research

DOCUMENT TYPE:

Journal

LANGUAGE:

English

REFERENCE COUNT:

35

THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 8 OF 60

ACCESSION NUMBER:

SCISEARCH COPYRIGHT 2002 ISI (R)

THE GENUINE ARTICLE:

2002:301464 SCISEARCH

TITLE:

537CY

UVA irradiation-induced activation of activator protein-1 is correlated with induced **expression** of AP-1 family members in the **human keratinocyte** cell line HaCaT

AUTHOR:

Silvers A L; Bowden G T (Reprint)

CORPORATE SOURCE:

Univ Arizona, Dept Radiat Oncol, Arizona Canc Ctr, Room 4999, 1515 N Campbell Ave, Tucson, AZ 85724 USA (Reprint); Univ Arizona, Dept Radiat Oncol, Arizona Canc Ctr, Tucson, AZ 85724 USA

COUNTRY OF AUTHOR:

USA

SOURCE:

PHOTOCHEMISTRY AND PHOTOBIOLOGY, (MAR 2002) Vol. 75, No. 3, pp. 302-310.

Publisher: AMER SOC PHOTOBIOLOGY, BIOTECH PARK, 1021 15TH ST, SUITE 9, AUGUSTA, GA 30901-3158 USA.

ISSN: 0031-8655.

DOCUMENT TYPE:

Article; Journal

LANGUAGE:

English

REFERENCE COUNT:

58

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 9 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)  
ACCESSION NUMBER: 2002:680689 SCISEARCH  
THE GENUINE ARTICLE: 582QL  
TITLE: Vitamin D and systemic cancer: is this relevant to  
malignant melanoma?  
AUTHOR: Osborne J E (Reprint); Hutchinson P E  
CORPORATE SOURCE: Leicester Royal Infirmary, Dept Dermatol, Leicester LE1 5WW,  
Leics, England (Reprint)  
COUNTRY OF AUTHOR: England  
SOURCE: BRITISH JOURNAL OF DERMATOLOGY, (AUG 2002) Vol. 147, No.  
2, pp. 197-213.  
Publisher: BLACKWELL PUBLISHING LTD, P O BOX 88, OSNEY  
MEAD, OXFORD OX2 ONE, OXON, ENGLAND.  
ISSN: 0007-0963.  
DOCUMENT TYPE: General Review; Journal  
LANGUAGE: English  
REFERENCE COUNT: 181

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 10 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)  
ACCESSION NUMBER: 2002:380221 SCISEARCH  
THE GENUINE ARTICLE: 546NR  
TITLE: Mechanisms of UV-induced signal transduction  
AUTHOR: Kulms D; Schwarz T (Reprint)  
CORPORATE SOURCE: Univ Munster, Dept Dermatol, Ludwig Boltzmann Inst Cell  
Biol & Immunobiol Ski, Von Esmarchstr 58, D-48149 Munster,  
Germany (Reprint); Univ Munster, Dept Dermatol, Ludwig  
Boltzmann Inst Cell Biol & Immunobiol Ski, D-48149  
Munster, Germany  
COUNTRY OF AUTHOR: Germany  
SOURCE: JOURNAL OF DERMATOLOGY, (APR 2002) Vol. 29, No. 4, pp.  
189-196.  
Publisher: JAPANESE DERMATOLOGICAL ASSOC, TAISEI-BLDG.,  
14-10 HONGO 3-CHOME, BUNKYO-KU, TOKYO, 113-0033, JAPAN.  
ISSN: 0385-2407.  
DOCUMENT TYPE: Article; Journal  
LANGUAGE: English  
REFERENCE COUNT: 49

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 11 OF 60 HCAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2002:469245 HCAPLUS  
DOCUMENT NUMBER: 137:197594  
TITLE: Nordihydroguaiaretic acid-mediated inhibition of  
ultraviolet B-induced activator protein-1 activation  
in **human keratinocytes**  
AUTHOR(S): Gonzales, Melissa; Bowden, G. Tim  
CORPORATE SOURCE: Department of Molecular and Cellular Biology, Arizona  
Cancer Center, College of Medicine, University of  
Arizona, Tucson, AZ, USA  
SOURCE: Molecular Carcinogenesis (2002), 34(2), 102-111  
CODEN: MOCAE8; ISSN: 0899-1987  
PUBLISHER: Wiley-Liss, Inc.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 36  
THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 12 OF 60 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.DUPLICATE 1  
ACCESSION NUMBER: 2002029764 EMBASE  
TITLE: Caspase activation and disruption of mitochondrial membrane  
potential during UV radiation-induced apoptosis of

**human keratinocytes** requires activation  
of protein **kinase C**.

AUTHOR: Denning M.F.; Wang Y.; Tibudan S.; Alkan S.; Nickoloff  
B.J.; Qin J.-Z.  
CORPORATE SOURCE: M.F. Denning, Department of Pathology, Cardinal Bernardin  
Cancer Center, Loyola University Medical Center, 2160 S.  
First Avenue, Maywood, IL 60153, United States.  
mdennin@lumc.edu  
SOURCE: Cell Death and Differentiation, (2002) 9/1 (40-52).  
Refs: 47  
ISSN: 1350-9047 CODEN: CDDIEK  
COUNTRY: United Kingdom  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 029 Clinical Biochemistry  
LANGUAGE: English  
SUMMARY LANGUAGE: English

L20 ANSWER 13 OF 60 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:207982 HCAPLUS

DOCUMENT NUMBER: 134:232725

TITLE: **Human** genes and polynucleotides encoding  
novel c-Jun N-terminal **kinase kinase**  
**kinases** MLK4, PAK4, PAK5, and YSK2  
**expressed in keratinocytes** and uses  
thereof

INVENTOR(S): Blumenberg, Miroslav; Gazel, Alix M.

PATENT ASSIGNEE(S): New York University, USA

SOURCE: Eur. Pat. Appl., 51 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1085093	A2	20010321	EP 2000-307866	20000912
EP 1085093	A3	20021030		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO

JP 2001157590 A2 20010612 JP 2000-284980 20000920

PRIORITY APPLN. INFO.: US 1999-155029P P 19990920

L20 ANSWER 14 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R) DUPLICATE 2

ACCESSION NUMBER: 2001:792535 SCISEARCH

THE GENUINE ARTICLE: 476BL

TITLE: G2 phase cell cycle arrest in **human** skin  
following UV irradiation

AUTHOR: Pavey S; Russell T; Gabrielli B (Reprint)

CORPORATE SOURCE: Univ Queensland, Sch Med, Dept Pathol, Joint Expt Oncol  
Program, Herston Rd, Brisbane, Qld 4006, Australia  
(Reprint); Univ Queensland, Sch Med, Dept Pathol, Joint  
Expt Oncol Program, Brisbane, Qld 4006, Australia  
Australia

COUNTRY OF AUTHOR:

SOURCE: ONCOGENE, (27 SEP 2001) Vol. 20, No. 43, pp. 6103-6110.  
Publisher: NATURE PUBLISHING GROUP, HOUNDMILLS,  
BASINGSTOKE RG21 6XS, HAMPSHIRE, ENGLAND.  
ISSN: 0950-9232.

DOCUMENT TYPE: Article; Journal

LANGUAGE: English

REFERENCE COUNT: 40

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 15 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)

ACCESSION NUMBER: 2001:868446 SCISEARCH

THE GENUINE ARTICLE: 486QV

TITLE: Cytokine-induced p38 activation feedback regulates the prolonged activation of AKT cell survival pathway initiated by reactive oxygen species in response to UV irradiation in **human keratinocytes**

AUTHOR: Zhang Q S; Maddock D A; Chen J P; Heo S; Chiu C; Lai D; Souza K; Mehta S; Wan Y S (Reprint)

CORPORATE SOURCE: Providence Coll, Dept Biol, 549 River Ave, Providence, RI 02918 USA (Reprint); Providence Coll, Dept Biol, Providence, RI 02918 USA; Roger Williams Med Ctr, Providence, RI 02918 USA

COUNTRY OF AUTHOR: USA

SOURCE: INTERNATIONAL JOURNAL OF ONCOLOGY, (NOV 2001) Vol. 19, No. 5, pp. 1057-1061.

Publisher: PROFESSOR D A SPANDIDOS, 1, S MERKOURI ST, EDITORIAL OFFICE,, ATHENS 116 35, GREECE.

ISSN: 1019-6439.

DOCUMENT TYPE: Article; Journal

LANGUAGE: English

REFERENCE COUNT: 26

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 16 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)

ACCESSION NUMBER: 2001:179802 SCISEARCH

THE GENUINE ARTICLE: 403ZQ

TITLE: Opposite regulation of the HPV20-URR and HPV27-URR promoters by ultraviolet irradiation and cytokines

AUTHOR: Ruhland A; de Villiers E M (Reprint)

CORPORATE SOURCE: Deutsch Krebsforschungszentrum, Div Tumovirus Characterizat, INF 280, Neuenheimer Feld 280, D-69120 Heidelberg, Germany (Reprint); Deutsch Krebsforschungszentrum, Div Tumovirus Characterizat, INF 280, D-69120 Heidelberg, Germany

COUNTRY OF AUTHOR: Germany

SOURCE: INTERNATIONAL JOURNAL OF CANCER, (15 MAR 2001) Vol. 91, No. 6, pp. 828-834.

Publisher: WILEY-LISS, DIV JOHN WILEY & SONS INC, 605 THIRD AVE, NEW YORK, NY 10158-0012 USA.

ISSN: 0020-7136.

DOCUMENT TYPE: Article; Journal

LANGUAGE: English

REFERENCE COUNT: 43

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 17 OF 60 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:184020 HCAPLUS

DOCUMENT NUMBER: 134:363386

TITLE: Role of stress responses in **human** cell survival following exposure to ultraviolet C radiation

AUTHOR(S): Cridland, N. A.; Martin, M. C.; Stevens, K.; Baller, C. A.; Pearson, A. J.; Driscoll, C. M. H.; Saunders, R. D.

CORPORATE SOURCE: National Radiological Protection Board, Didcot, OX11 0RQ, UK

SOURCE: International Journal of Radiation Biology (2001), 77(3), 365-374

CODEN: IJRBE7; ISSN: 0955-3002

PUBLISHER: Taylor & Francis Ltd.

DOCUMENT TYPE: Journal



LANGUAGE: English  
REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 18 OF 60 HCAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2001:154857 HCAPLUS  
DOCUMENT NUMBER: 135:253800  
TITLE: Transmodulation of epidermal growth factor receptor  
mediates IL-1.beta.-induced MMP-1 **expression**  
in cultured **human keratinocytes**  
AUTHOR(S): Wan, Yinsheng; Belt, Andrew; Wang, Zengquan; Voorhees,  
John; Fisher, Gary  
CORPORATE SOURCE: Department of Biology, Providence College, Providence,  
RI, 02918, USA  
SOURCE: International Journal of Molecular Medicine (2001),  
7(3), 329-334  
CODEN: IJMMFG; ISSN: 1107-3756  
PUBLISHER: International Journal of Molecular Medicine  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 19 OF 60 MEDLINE DUPLICATE 3  
ACCESSION NUMBER: 2001287108 MEDLINE  
DOCUMENT NUMBER: 21181561 PubMed ID: 11284715  
TITLE: Identification and characterization of a novel  
sucrose-non-fermenting protein **kinase**  
/AMP-activated protein **kinase**-related protein  
**kinase**, SNARK.  
AUTHOR: Lefebvre D L; Bai Y; Shahmolky N; Sharma M; Poon R; Drucker  
D J; Rosen C F  
CORPORATE SOURCE: Department of Medicine, Division of Dermatology, Toronto  
General Hospital, Banting Institute, Room 317, 100 College  
Street, Toronto M5G 1L5, Ontario, Canada.  
SOURCE: BIOCHEMICAL JOURNAL, (2001 Apr 15) 355 (Pt 2) 297-305.  
Journal code: 2984726R. ISSN: 0264-6021.  
PUB. COUNTRY: England: United Kingdom  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200105  
ENTRY DATE: Entered STN: 20010529  
Last Updated on STN: 20020420  
Entered Medline: 20010524

L20 ANSWER 20 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)  
ACCESSION NUMBER: 2001:696419 SCISEARCH  
THE GENUINE ARTICLE: 4652J  
TITLE: UVA-340 as energy source, mimicking natural sunlight,  
activates the transcription factor AP-1 in cultured  
fibroblasts: Evidence for involvement of protein  
**Kinase-C**  
AUTHOR: Nakano H; Gasparro F P; Uitto J (Reprint)  
CORPORATE SOURCE: Thomas Jefferson Univ, Jefferson Med Coll, Jefferson Inst  
Mol Med, Dept Dermatol & Cutaneous Biol, 233 S 10th St,  
Suite 450 BLSB, Philadelphia, PA 19107 USA (Reprint);  
Thomas Jefferson Univ, Jefferson Med Coll, Jefferson Inst  
Mol Med, Dept Dermatol & Cutaneous Biol, Philadelphia, PA  
19107 USA; Thomas Jefferson Univ, Jefferson Med Coll,  
Jefferson Inst Mol Med, Dept Mol Pharmacol & Biochem,  
Philadelphia, PA 19107 USA

COUNTRY OF AUTHOR: USA  
SOURCE: PHOTOCHEMISTRY AND PHOTOBIOLOGY, (AUG 2001) Vol. 74, No. 2, pp. 274-282.  
Publisher: AMER SOC PHOTOBIOLOGY, BIOTECH PARK, 1021 15TH ST, SUITE 9, AUGUSTA, GA 30901-3158 USA.  
ISSN: 0031-8655.  
DOCUMENT TYPE: Article; Journal  
LANGUAGE: English  
REFERENCE COUNT: 25

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 21 OF 60 HCAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2001:89310 HCAPLUS  
DOCUMENT NUMBER: 135:133978  
TITLE: Induction of p53 **expression** in skin by radiotherapy and **UV radiation**: A randomized study  
AUTHOR(S): Ponten, Fredrik; Lindman, Henrik; Bostrom, Asa; Berne, Berit; Bergh, Jonas  
CORPORATE SOURCE: Department of Genetics and Pathology, University Hospital, Uppsala, S-751 85, Swed.  
SOURCE: Journal of the National Cancer Institute (2001), 93(2), 128-133  
CODEN: JNCIEQ; ISSN: 0027-8874  
PUBLISHER: Oxford University Press  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 22 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)  
ACCESSION NUMBER: 2001:877967 SCISEARCH  
THE GENUINE ARTICLE: 487CM  
TITLE: Inhibition of UVB-induced oxidative stress-mediated phosphorylation of mitogen-activated protein **kinase** signaling pathways in cultured **human epidermal keratinocytes** by green tea polyphenol (-)-epigallocatechin-3-gallate  
AUTHOR: Katiyar S K (Reprint); Afaq F; Azizuddin K; Mukhtar H  
CORPORATE SOURCE: Univ Alabama, Dept Dermatol, 1670 Univ Blvd, Box 202, Volker Hall 501B, Birmingham, AL 35294 USA (Reprint); Univ Alabama, Dept Dermatol, Birmingham, AL 35294 USA; Case Western Reserve Univ, Dept Dermatol, Cleveland, OH 44106 USA  
COUNTRY OF AUTHOR: USA  
SOURCE: TOXICOLOGY AND APPLIED PHARMACOLOGY, (15 OCT 2001) Vol. 176, No. 2, pp. 110-117.  
Publisher: ACADEMIC PRESS INC, 525 B ST, STE 1900, SAN DIEGO, CA 92101-4495 USA.  
ISSN: 0041-008X.  
DOCUMENT TYPE: Article; Journal  
LANGUAGE: English  
REFERENCE COUNT: 56

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 23 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)  
ACCESSION NUMBER: 2001:327935 SCISEARCH  
THE GENUINE ARTICLE: 421CY  
TITLE: Possible involvement of ERK 1/2 in UVA-induced melanogenesis in cultured normal **human** epidermal melanocytes  
AUTHOR: Yanase H; Ando H; Horikawa M; Watanabe M; Mori T; Matsuda

CORPORATE SOURCE: N (Reprint)  
 Nagasaki Univ, Radioisotope Ctr, 1-12-4 Sakamoto, Nagasaki  
 8528523, Japan (Reprint); Nagasaki Univ, Radioisotope Ctr,  
 Nagasaki 8528523, Japan; Kurabo Ind Ltd, Tech Res Lab,  
 Osaka 5720823, Japan; Sunstar Inc, Cent Res Inst,  
 Takatsuki, Osaka 5691195, Japan; Nagasaki Univ, Sch  
 Pharmaceut Sci, Nagasaki 8528521, Japan; Nara Med Univ,  
 Radioisotope Inst, Kashihara, Nara 6348521, Japan  
 COUNTRY OF AUTHOR: Japan  
 SOURCE: PIGMENT CELL RESEARCH, (APR 2001) Vol. 14, No. 2, pp.  
 103-109.  
 Publisher: MUNKSGAARD INT PUBL LTD, 35 NORRE SOGADE, PO  
 BOX 2148, DK-1016 COPENHAGEN, DENMARK.  
 ISSN: 0893-5785.  
 DOCUMENT TYPE: Article; Journal  
 LANGUAGE: English  
 REFERENCE COUNT: 48

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 24 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)  
 ACCESSION NUMBER: 2001:461977 SCISEARCH  
 THE GENUINE ARTICLE: 438LX  
 TITLE: Induction of gene **expression** via activator  
 protein-1 in the ascorbate protection against UV-induced  
 damage  
 AUTHOR: Catani M V; Rossi A; Costanzo A; Sabatini S; Levrero M;  
 Melino G; Avigliano L (Reprint)  
 CORPORATE SOURCE: Univ Roma Tor Vergata, Dept Expt Med & Biochem Sci, Via  
 Tor Vergata 135, I-00133 Rome, Italy (Reprint); Univ Roma  
 Tor Vergata, Dept Expt Med & Biochem Sci, I-00133 Rome,  
 Italy; Univ Roma Tor Vergata, Dept Expt Med, IDI IRCSS,  
 Biochem Lab, I-00133 Rome, Italy; Univ Rome La Sapienza,  
 Fdn A Cesalpino, Gene Express Lab, I-00161 Rome, Italy  
 COUNTRY OF AUTHOR: Italy  
 SOURCE: BIOCHEMICAL JOURNAL, (15 MAY 2001) Vol. 356, Part 1, pp.  
 77-85.  
 Publisher: PORTLAND PRESS, 59 PORTLAND PLACE, LONDON W1N  
 3AJ, ENGLAND.  
 ISSN: 0264-6021.  
 DOCUMENT TYPE: Article; Journal  
 LANGUAGE: English  
 REFERENCE COUNT: 47

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 25 OF 60 MEDLINE DUPLICATE 4  
 ACCESSION NUMBER: 2001126118 MEDLINE  
 DOCUMENT NUMBER: 21068349 PubMed ID: 11154867  
 TITLE: DNA-dependent protein **kinase** catalytic subunit is  
 cleaved during UV-induced apoptosis.  
 AUTHOR: Itoh T; Horio T  
 CORPORATE SOURCE: Department of Dermatology, Kansai Medical University, 10-15  
 Fumizono-cho, Moriguchi, 570-8506, Osaka, Japan..  
 tito@takii.kmu.ac.jp  
 SOURCE: JOURNAL OF DERMATOLOGICAL SCIENCE, (2001 Jan) 25 (1) 72-7.  
 Journal code: 9011485. ISSN: 0923-1811.  
 PUB. COUNTRY: Ireland  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 200102  
 ENTRY DATE: Entered STN: 20010322  
 Last Updated on STN: 20010322

Entered Medline: 20010222

L20 ANSWER 26 OF 60 HCAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2001:307342 HCAPLUS  
DOCUMENT NUMBER: 135:328776  
TITLE: Effects on **human** skin of repetitive  
ultraviolet-A1 (UVA1) irradiation and visible light  
AUTHOR(S): Edstrom, Desiree Wiegles; Porwit, Anna; Ros,  
Anne-Marie  
CORPORATE SOURCE: Department of Dermatology, Karolinska Hospital,  
Stockholm, Swed.  
SOURCE: Photodermatology, Photoimmunology & Photomedicine  
(2001), 17(2), 66-70  
CODEN: PPPHEW; ISSN: 0905-4383  
PUBLISHER: Munksgaard International Publishers Ltd.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 27 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)  
ACCESSION NUMBER: 2000:862068 SCISEARCH  
THE GENUINE ARTICLE: 372LK  
TITLE: Non-enzymatic triggering of the ceramide signalling  
cascade by solar UVA radiation  
AUTHOR: GretherBeck S; Bonizzi G; SchmittBrenden H; Felsner I;  
Timmer A; Sies H; Johnson J P; Piette J; Krutmann J  
(Reprint)  
CORPORATE SOURCE: UNIV DUSSELDORF, DEPT DERMATOL, MOORENSTR 5, D-40225  
DUSSELDORF, GERMANY (Reprint); UNIV DUSSELDORF, DEPT  
DERMATOL, D-40225 DUSSELDORF, GERMANY; UNIV DUSSELDORF,  
INST PHYSIOL CHEM 1, D-40225 DUSSELDORF, GERMANY; UNIV  
DUSSELDORF, BIOL MED FORSCHUNGSZENTRUM, D-40225  
DUSSELDORF, GERMANY; UNIV MUNICH, INST IMMUNOL, D-8000  
MUNICH 2, GERMANY; UNIV LIEGE, CHU B35, INST PATHOL, LAB  
VIROL & IMMUNOL, B-4000 LIEGE, BELGIUM  
COUNTRY OF AUTHOR: GERMANY; BELGIUM  
SOURCE: EMBO JOURNAL, (1 NOV 2000) Vol. 19, No. 21, pp. 5793-5800.  
Publisher: OXFORD UNIV PRESS, GREAT CLARENDON ST, OXFORD  
OX2 6DP, ENGLAND.  
ISSN: 0261-4189.  
DOCUMENT TYPE: Article; Journal  
FILE SEGMENT: LIFE  
LANGUAGE: English  
REFERENCE COUNT: 47  
\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 28 OF 60 MEDLINE DUPLICATE 5  
ACCESSION NUMBER: 2000255353 MEDLINE  
DOCUMENT NUMBER: 20255353 PubMed ID: 10771484  
TITLE: FRAP DNA-dependent protein **kinase** mediates a late  
signal transduced from ultraviolet-induced DNA damage.  
AUTHOR: Yarosh D B; Cruz P D; Dougherty I; Bizios N; Kibitel J;  
Goodtzova K; Both D; Goldfarb S; Green B; Brown D  
CORPORATE SOURCE: Applied Genetics Inc., Dermatics, Freeport, New York, New  
York, USA.  
SOURCE: JOURNAL OF INVESTIGATIVE DERMATOLOGY, (2000 May) 114 (5)  
1005-10.  
Journal code: 0426720. ISSN: 0022-202X.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English

FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200006  
ENTRY DATE: Entered STN: 20000616  
Last Updated on STN: 20020420  
Entered Medline: 20000602

L20 ANSWER 29 OF 60 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
ACCESSION NUMBER: 2001:21575 BIOSIS  
DOCUMENT NUMBER: PREV200100021575  
TITLE: Regulation of TNFalpha production and release in  
**human** and mouse **keratinocytes** and mouse  
skin after UV-B irradiation.  
AUTHOR(S): Yarosh, Daniel (1); Both, Dawn; Kibitel, Jeannie; Anderson,  
Cathy; Elmets, Craig; Brash, Douglas; Brown, David  
CORPORATE SOURCE: (1) AGI Dermatics, 205 Buffalo Ave., Freeport, NY, 11520:  
DanYarosh@AGIDERM.COM USA  
SOURCE: Photodermatology Photoimmunology & Photomedicine,  
(December, 2000) Vol. 16, No. 6, pp. 263-270. print.  
ISSN: 0905-4383.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
SUMMARY LANGUAGE: English

L20 ANSWER 30 OF 60 HCAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2001:51314 HCAPLUS  
DOCUMENT NUMBER: 134:234801  
TITLE: p53 is phosphorylated at the carboxyl terminus and  
promotes the differentiation of **human** HaCaT  
**keratinocytes**  
AUTHOR(S): Paramio, Jesus M.; Segrelles, Carmen; Lain, Sonia;  
Gomez-Casero, Elena; Lane, David P.; Lane, E.  
CORPORATE SOURCE: Birgitte; Jorcano, Jose L.  
Project on Cell and Molecular Biology and Gene  
Therapy, Centro de Investigaciones Energeticas  
Medioambientales y Tecnologicas, Madrid, E-28040,  
Spain  
SOURCE: Molecular Carcinogenesis (2000), 29(4), 251-262  
CODEN: MOCAE8; ISSN: 0899-1987  
PUBLISHER: Wiley-Liss, Inc.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 62 THERE ARE 62 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 31 OF 60 HCAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2000:617358 HCAPLUS  
DOCUMENT NUMBER: 133:308030  
TITLE: Up-regulation of tyrosinase gene by nitric oxide in  
**human** melanocytes  
AUTHOR(S): Sasaki, Minoru; Horikoshi, Toshio; Uchiwa, Hideyo;  
Miyachi, Yoshiki  
CORPORATE SOURCE: Basic Research Laboratory, Kanebo Ltd., Odawara,  
250-0002, Japan  
SOURCE: Pigment Cell Research (2000), 13(4), 248-252  
CODEN: PCREEA; ISSN: 0893-5785  
PUBLISHER: Munksgaard International Publishers Ltd.  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 32 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)

ACCESSION NUMBER: 2000:381993 SCISEARCH  
 THE GENUINE ARTICLE: 314KH  
 TITLE: TNF-alpha and serum induce SKALP/elafin gene  
           **expression in human**  
           **keratinocytes** by a p38 MAP kinase  
           -dependent pathway  
 AUTHOR: Pfundt R; Wingens M; Bergers M; Zweers M; Frenken M;  
           Schalkwijk J (Reprint)  
 CORPORATE SOURCE: UNIV NIJMEGEN HOSP, DEPT DERMATOL, POB 9101, NL-6500 HB  
                   NIJMEGEN, NETHERLANDS (Reprint); UNIV NIJMEGEN HOSP, DEPT  
                   DERMATOL, NL-6500 HB NIJMEGEN, NETHERLANDS  
 COUNTRY OF AUTHOR: NETHERLANDS  
 SOURCE: ARCHIVES OF DERMATOLOGICAL RESEARCH, (APR 2000) Vol. 292,  
           No. 4, pp. 180-187.  
           Publisher: SPRINGER VERLAG, 175 FIFTH AVE, NEW YORK, NY  
           10010.  
           ISSN: 0340-3696.  
 DOCUMENT TYPE: Article; Journal  
 FILE SEGMENT: LIFE  
 LANGUAGE: English  
 REFERENCE COUNT: 55  
           \*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 33 OF 60 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
 ACCESSION NUMBER: 2000366342 EMBASE  
 TITLE: The role of stress responses in determining cell fate  
           following exposure to **ultraviolet**  
           **radiation.**  
 AUTHOR: Cridland N.A.; Martin M.C.; Stevens K.; Baller C.A.;  
           Pearson A.J.; Driscoll C.M.H.; Saunders R.D.  
 CORPORATE SOURCE: N.A. Cridland, Natl. Radiological Protection Board,  
                   Chilton, Didcot OX11 0RQ, United Kingdom  
 SOURCE: Radiation Protection Dosimetry, (2000) 91/1-3 (81-84).  
           Refs: 18  
           ISSN: 0144-8420 CODEN: RPDODE  
 COUNTRY: United Kingdom  
 DOCUMENT TYPE: Journal; Conference Article  
 FILE SEGMENT: 016 Cancer  
                   029 Clinical Biochemistry  
                   046 Environmental Health and Pollution Control  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English

L20 ANSWER 34 OF 60 HCAPLUS COPYRIGHT 2002 ACS  
 ACCESSION NUMBER: 2000:874761 HCAPLUS  
 DOCUMENT NUMBER: 134:202453  
 TITLE: The phototumorigenic fluoroquinolone, lomefloxacin,  
           photosensitizes p53 accumulation and transcriptional  
           activity in **human** skin cells  
 AUTHOR(S): Kidd, S.; Meunier, J.-R.; Traynor, N. J.; Marrot, L.;  
           Agapakis-Causse, C.; Gibbs, N. K.  
 CORPORATE SOURCE: Photobiology Unit, University of Dundee, Ninewells  
                   Hospital, Dundee, DD1 9SY, UK  
 SOURCE: Journal of Photochemistry and Photobiology, B: Biology  
           (2000), 58(1), 26-31  
           CODEN: JPPBEG; ISSN: 1011-1344  
           Elsevier Science S.A.  
 PUBLISHER: Journal  
 DOCUMENT TYPE: English  
 LANGUAGE: English  
 REFERENCE COUNT: 30  
           THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS  
           RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 35 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)

ACCESSION NUMBER: 1999:396061 SCISEARCH

THE GENUINE ARTICLE: 196RW

TITLE: A cyclin D-Cdk4 activity required for G(2) phase cell cycle progression is inhibited in **ultraviolet radiation**-induced G(2) phase delay

AUTHOR: Gabrielli B G (Reprint); Sarcevic B; Sinnamon J; Walker G; Castellano M; Wang X Q; Ellem K A O

CORPORATE SOURCE: ROYAL BRISBANE HOSP, QUEENSLAND INST MED RES, BRISBANE, QLD 4029, AUSTRALIA (Reprint); UNIV QUEENSLAND, QUEENSLAND INST MED RES, QUEENSLAND CANC FUND RES UNIT, BRISBANE, QLD 4029, AUSTRALIA; UNIV QUEENSLAND, JOINT EXPT ONCOL PROGRAM, BRISBANE, QLD 4029, AUSTRALIA; ST VINCENTS HOSP, GARVAN INST MED RES, CANC RES PROGRAM, SYDNEY, NSW 2010, AUSTRALIA

COUNTRY OF AUTHOR: AUSTRALIA

SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (14 MAY 1999) Vol. 274, No. 20, pp. 13961-13969.  
Publisher: AMER SOC BIOCHEMISTRY MOLECULAR BIOLOGY INC, 9650 ROCKVILLE PIKE, BETHESDA, MD 20814.  
ISSN: 0021-9258.

DOCUMENT TYPE: Article; Journal

FILE SEGMENT: LIFE

LANGUAGE: English

REFERENCE COUNT: 45

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 36 OF 60 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.DUPLICATE 6

ACCESSION NUMBER: 1999311870 EMBASE

TITLE: **Ultraviolet radiation** induces p16(CDKN2A) **expression** in human skin.

AUTHOR: Pavey S.; Conroy S.; Russell T.; Gabrielli B.

CORPORATE SOURCE: B. Gabrielli, Post Office Royal Brisbane Hospital, Brisbane, QLD 4029, Australia. brianG@qimr.edu.au

SOURCE: Cancer Research, (1 Sep 1999) 59/17 (4185-4189).  
Refs: 35  
ISSN: 0008-5472 CODEN: CNREA8

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 005 General Pathology and Pathological Anatomy  
013 Dermatology and Venereology  
016 Cancer

LANGUAGE: English

SUMMARY LANGUAGE: English

L20 ANSWER 37 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)

ACCESSION NUMBER: 1999:490554 SCISEARCH

THE GENUINE ARTICLE: 208FV

TITLE: Ultraviolet irradiation induces cyclooxygenase-2 **expression** in **keratinocytes**

AUTHOR: Isoherranen K (Reprint); Punnonen K; Jansen C; Uotila P

CORPORATE SOURCE: UNIV HELSINKI, CENT HOSP, SKIN & ALLERGY HOSP, MEILAHOENTIE 2, HELSINKI 00250, FINLAND (Reprint); UNIV TURKU, DEPT CLIN CHEM, FIN-20520 TURKU, FINLAND; UNIV TURKU, DEPT DERMATOL, FIN-20520 TURKU, FINLAND; UNIV TURKU, DEPT PHYSIOL, FIN-20520 TURKU, FINLAND; UNIV TURKU, DEPT CLIN PHYSIOL, FIN-20520 TURKU, FINLAND; UNIV TURKU, MEDICITY RES LAB, FIN-20520 TURKU, FINLAND; KUOPIO UNIV HOSP, DEPT CLIN CHEM, KUOPIO 70211, FINLAND

COUNTRY OF AUTHOR: FINLAND

SOURCE: BRITISH JOURNAL OF DERMATOLOGY, (JUN 1999) Vol. 140, No. 6, pp. 1017-1022.

Publisher: BLACKWELL SCIENCE LTD, P O BOX 88, OSNEY MEAD,  
OXFORD OX2 ONE, OXON, ENGLAND.

ISSN: 0007-0963.

DOCUMENT TYPE: Article; Journal  
FILE SEGMENT: LIFE; CLIN  
LANGUAGE: English  
REFERENCE COUNT: 35

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 38 OF 60 MEDLINE DUPLICATE 7  
ACCESSION NUMBER: 2000062962 MEDLINE  
DOCUMENT NUMBER: 20062962 PubMed ID: 10594731  
TITLE: Nerve growth factor protects **human keratinocytes** from ultraviolet-B-induced apoptosis.  
AUTHOR: Marconi A; Vaschieri C; Zanolli S; Giannetti A; Pincelli C  
CORPORATE SOURCE: Department of Neuropsychosensorial Pathology, Section of Dermatology, University of Modena and Reggion Emilia, Modena, Italy.  
SOURCE: JOURNAL OF INVESTIGATIVE DERMATOLOGY, (1999 Dec) 113 (6) 920-7.  
PUB. COUNTRY: Journal code: 0426720. ISSN: 0022-202X.  
DOCUMENT TYPE: United States  
LANGUAGE: Journal; Article; (JOURNAL ARTICLE)  
FILE SEGMENT: English  
ENTRY MONTH: Priority Journals  
ENTRY DATE: 200001  
Entered STN: 20000124  
Last Updated on STN: 20000124  
Entered Medline: 20000113

L20 ANSWER 39 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)  
ACCESSION NUMBER: 1999:364817 SCISEARCH  
THE GENUINE ARTICLE: 193EA  
TITLE: UVB activates ERK1/2 and p38 signaling pathways via reactive oxygen species in cultured **keratinocytes**  
AUTHOR: Peus D; Vasa R A; Beyerle A; Meves A; Krautmacher C; Pittelkow M R (Reprint)  
CORPORATE SOURCE: MAYO CLIN & MAYO FDN, DEPT DERMATOL, 200 1ST ST SW, GUGG 411, ROCHESTER, MN 55905 (Reprint); MAYO CLIN & MAYO FDN, DEPT DERMATOL, ROCHESTER, MN 55905; MAYO CLIN & MAYO FDN, DEPT BIOCHEM, ROCHESTER, MN 55905; MAYO CLIN & MAYO FDN, DEPT MOL BIOL, ROCHESTER, MN 55905  
COUNTRY OF AUTHOR: USA  
SOURCE: JOURNAL OF INVESTIGATIVE DERMATOLOGY, (MAY 1999) Vol. 112, No. 5, pp. 751-756.  
Publisher: BLACKWELL SCIENCE INC, 350 MAIN ST, MALDEN, MA 02148.  
ISSN: 0022-202X.  
DOCUMENT TYPE: Article; Journal  
FILE SEGMENT: LIFE; CLIN  
LANGUAGE: English  
REFERENCE COUNT: 50

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 40 OF 60 HCAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 1999:429556 HCAPLUS  
DOCUMENT NUMBER: 131:194190  
TITLE: Coenzyme Q10, a cutaneous antioxidant and energizer  
AUTHOR(S): Hoppe, U.; Bergemann, J.; Diembeck, W.; Ennen, J.; Gohla, S.; Harris, I.; Jacob, J.; Kielholz, J.; Mei, W.; Pollet, D.; Schachtschabel, D.; Sauermann, G.; Schreiner, V.; Stab, F.; Steckel, F.



CORPORATE SOURCE: Paul Gerson Unna Research Center, Beiersdorf AG,  
Hamburg, D-20245, Germany  
SOURCE: BioFactors (1999), 9(2-4), 371-378  
CODEN: BIFAEU; ISSN: 0951-6433  
PUBLISHER: IOS Press  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 41 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)  
ACCESSION NUMBER: 1998:855217 SCISEARCH  
THE GENUINE ARTICLE: 135JJ  
TITLE: Protein **kinase** C delta is activated by  
caspase-dependent proteolysis during **ultraviolet**  
**radiation**-induced apoptosis of **human**  
**keratinocytes**  
AUTHOR: Denning M F (Reprint); Wang Y H; Nickoloff B J; WroneSmith  
T  
CORPORATE SOURCE: LOYOLA UNIV, MED CTR, DEPT PATHOL, MAYWOOD, IL 60153  
(Reprint); LOYOLA UNIV, MED CTR, CARDINAL BERNARDIN CANC  
CTR, SKIN CANC RES PROGRAM, MAYWOOD, IL 60153  
COUNTRY OF AUTHOR: USA  
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (6 NOV 1998) Vol. 273,  
No. 45, pp. 29995-30002.  
Publisher: AMER SOC BIOCHEMISTRY MOLECULAR BIOLOGY INC,  
9650 ROCKVILLE PIKE, BETHESDA, MD 20814.  
ISSN: 0021-9258.  
DOCUMENT TYPE: Article; Journal  
FILE SEGMENT: LIFE  
LANGUAGE: English  
REFERENCE COUNT: 53  
\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 42 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)  
ACCESSION NUMBER: 1998:470091 SCISEARCH  
THE GENUINE ARTICLE: ZT981  
TITLE: Singlet molecular oxygen (O-1(2)): A possible effector of  
eukaryotic gene **expression**  
AUTHOR: Ryter S W; Tyrrell R M (Reprint)  
CORPORATE SOURCE: UNIV BATH, SCH PHARM & PHARMACOL, BATH BA2 7AY, AVON,  
ENGLAND (Reprint); UNIV BATH, SCH PHARM & PHARMACOL, BATH  
BA2 7AY, AVON, ENGLAND; SO ILLINOIS UNIV, SCH MED, DEPT  
INTERNAL MED, SPRINGFIELD, IL 62702  
COUNTRY OF AUTHOR: ENGLAND; USA  
SOURCE: FREE RADICAL BIOLOGY AND MEDICINE, (JUN 1998) Vol. 24, No.  
9, pp. 1520-1534.  
Publisher: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD,  
LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND.  
ISSN: 0891-5849.  
DOCUMENT TYPE: General Review; Journal  
FILE SEGMENT: LIFE  
LANGUAGE: English  
REFERENCE COUNT: 134  
\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 43 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)  
ACCESSION NUMBER: 1998:398046 SCISEARCH  
THE GENUINE ARTICLE: ZN928  
TITLE: H2O2 is an important mediator of UVB-induced EGF-receptor  
phosphorylation in cultured **keratinocytes**  
AUTHOR: Peus D; Vasa R A; Meves A; Pott M; Beyerle A; Squillace K;

CORPORATE SOURCE: Pittelkow M R (Reprint)  
MAYO CLIN & MAYO FDN, DEPT DERMATOL, 200 1ST ST SW, GUGG  
442D, ROCHESTER, MN 55905 (Reprint); MAYO CLIN & MAYO FDN,  
DEPT DERMATOL, ROCHESTER, MN 55905; MAYO CLIN & MAYO FDN,  
DEPT BIOCHEM & MOL BIOL, ROCHESTER, MN 55905  
COUNTRY OF AUTHOR: USA  
SOURCE: JOURNAL OF INVESTIGATIVE DERMATOLOGY, (JUN 1998) Vol. 110,  
No. 6, pp. 966-971.  
Publisher: BLACKWELL SCIENCE INC, 350 MAIN ST, MALDEN, MA  
02148.  
ISSN: 0022-202X.  
DOCUMENT TYPE: Article; Journal  
FILE SEGMENT: LIFE; CLIN  
LANGUAGE: English  
REFERENCE COUNT: 56

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 44 OF 60 MEDLINE DUPLICATE 8  
ACCESSION NUMBER: 1998408018 MEDLINE  
DOCUMENT NUMBER: 98408018 PubMed ID: 9735409  
TITLE: Transforming growth factor-beta enhances the  
ultraviolet-mediated stress response in p53-/-  
**keratinocytes.**  
AUTHOR: Merryman J I; Neilsen N; Stanton D D  
CORPORATE SOURCE: The University of Tennessee College of Veterinary Medicine,  
Knoxville, TN 37996, USA.  
SOURCE: INTERNATIONAL JOURNAL OF ONCOLOGY, (1998 Oct) 13 (4) 781-9.  
Journal code: 9306042. ISSN: 1019-6439.  
PUB. COUNTRY: Greece  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199812  
ENTRY DATE: Entered STN: 19990115  
Last Updated on STN: 19990115  
Entered Medline: 19981209

L20 ANSWER 45 OF 60 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
ACCESSION NUMBER: 1998:137785 BIOSIS  
DOCUMENT NUMBER: PREV199800137785  
TITLE: Solar ultraviolet light activates extracellular  
signal-regulated **kinases** and the ternary complex  
factor in **human** normal **keratinocytes.**  
AUTHOR(S): Englaro, Walter; Derijard, Benoit; Ortonne, Jean-Paul;  
Ballotti, Robert (1)  
CORPORATE SOURCE: (1) Inst. National de la Sante et de la Recherche Medicale  
U385, Fac. Med., Avenue de Valombrose, 06107 Nice cedex 2  
France  
SOURCE: Oncogene, (Feb. 5, 1998) Vol. 16, No. 5, pp. 661-664.  
ISSN: 0950-9232.  
DOCUMENT TYPE: Article  
LANGUAGE: English

L20 ANSWER 46 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)  
ACCESSION NUMBER: 1998:575752 SCISEARCH  
THE GENUINE ARTICLE: 102KA  
TITLE: Endothelin-1 is a paracrine growth factor that modulates  
melanogenesis of **human** melanocytes and  
participates in their responses to **ultraviolet**  
**radiation**  
AUTHOR: Tada A; Suzuki I; Im S; Davis M B; Cornelius J; Babcock G;  
Nordlund J J; AbdelMalek Z A (Reprint)

CORPORATE SOURCE: UNIV CINCINNATI, COLL MED, DEPT DERMATOL, POB 670592,  
CINCINNATI, OH 45267 (Reprint); UNIV CINCINNATI, COLL MED,  
DEPT DERMATOL, CINCINNATI, OH 45267; UNIV CINCINNATI,  
SHRINERS BURNS INST, CINCINNATI, OH 45229; UNIV  
CINCINNATI, DEPT SURG, CINCINNATI, OH 45229; POLA LABS,  
YOKOHAMA, KANAGAWA 244, JAPAN

COUNTRY OF AUTHOR: USA; JAPAN  
SOURCE: CELL GROWTH & DIFFERENTIATION, (JUL 1998) Vol. 9, No. 7,  
pp. 575-584.

Publisher: AMER ASSOC CANCER RESEARCH, PO BOX 11806,  
BIRMINGHAM, AL 35202.  
ISSN: 1044-9523.

DOCUMENT TYPE: Article; Journal  
FILE SEGMENT: LIFE  
LANGUAGE: English  
REFERENCE COUNT: 51

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 47 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)

ACCESSION NUMBER: 1998:593397 SCISEARCH

THE GENUINE ARTICLE: 105CC

TITLE: Animals under the sun: Effects of **ultraviolet  
radiation** on mammalian skin

AUTHOR: Slominski A (Reprint); Pawelek J

CORPORATE SOURCE: LOYOLA UNIV, MED CTR, DEPT PATHOL, 2160 S 1ST AVE,  
MAYWOOD, IL 60153 (Reprint)

COUNTRY OF AUTHOR: USA

SOURCE: CLINICS IN DERMATOLOGY, (JUL-AUG 1998) Vol. 16, No. 4, pp.  
503-515.

Publisher: ELSEVIER SCIENCE INC, 655 AVENUE OF THE  
AMERICAS, NEW YORK, NY 10010.

ISSN: 0738-081X.

DOCUMENT TYPE: General Review; Journal  
FILE SEGMENT: CLIN  
LANGUAGE: English  
REFERENCE COUNT: 146

L20 ANSWER 48 OF 60 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1999:16935 HCAPLUS

DOCUMENT NUMBER: 130:193689

TITLE: A novel immediate early response gene, IEX-1, is  
induced by **ultraviolet radiation**  
in **human keratinocytes**

AUTHOR(S): Kumar, Rajiv; Kobayashi, Teruaki; Warner, Gina M.; Wu,  
Yanhong; Salisbury, Jeffrey L.; Lingle, Wilma;  
Pittelkow, Mark R.

CORPORATE SOURCE: Nephrology Research Unit Department of Medicine,  
Department of Biochemistry and Molecular Biology,  
Laboratory Medicine, Mayo Clinic and Foundation,  
Rochester, MN, 55905, USA

SOURCE: Biochemical and Biophysical Research Communications  
(1998), 253(2), 336-341

CODEN: BBRCA9; ISSN: 0006-291X

PUBLISHER: Academic Press

DOCUMENT TYPE: Journal

LANGUAGE: English

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 49 OF 60 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.DUPLICATE 9

ACCESSION NUMBER: 1998257255 EMBASE

TITLE: Rac1 mediates dendrite formation in response to melanocyte

stimulating hormone and ultraviolet light in a murine melanoma model.

AUTHOR: Scott G.A.; Cassidy L.  
CORPORATE SOURCE: Dr. G.A. Scott, Dermatology Department, Box 697, Univ. of Rochester Sch. of Med./Dent, 601 Elmwood Avenue, Rochester, NY 14642, United States  
SOURCE: Journal of Investigative Dermatology, (1998) 111/2 (243-250).  
Refs: 72  
ISSN: 0022-202X CODEN: JIDEAE  
COUNTRY: United States  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 005 General Pathology and Pathological Anatomy  
013 Dermatology and Venereology  
016 Cancer  
LANGUAGE: English  
SUMMARY LANGUAGE: English

L20 ANSWER 50 OF 60 MEDLINE DUPLICATE 10  
ACCESSION NUMBER: 1998400810 MEDLINE  
DOCUMENT NUMBER: 98400810 PubMed ID: 9732061  
TITLE: Molecular mechanisms of photoaging and its prevention by retinoic acid: ultraviolet irradiation induces MAP **kinase** signal transduction cascades that induce Ap-1-regulated matrix metalloproteinases that degrade **human** skin in vivo.  
AUTHOR: Fisher G J; Voorhees J J  
CORPORATE SOURCE: Department of Dermatology, University of Michigan, Ann Arbor 48109-0609, USA.  
SOURCE: JOURNAL OF INVESTIGATIVE DERMATOLOGY. SYMPOSIUM PROCEEDINGS, (1998 Aug) 3 (1) 61-8. Ref: 48  
Journal code: 9609059. ISSN: 1087-0024.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
General Review; (REVIEW)  
(REVIEW, TUTORIAL)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199811  
ENTRY DATE: Entered STN: 19990106  
Last Updated on STN: 20000303  
Entered Medline: 19981125

L20 ANSWER 51 OF 60 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.DUPLICATE 11  
ACCESSION NUMBER: 97193429 EMBASE  
DOCUMENT NUMBER: 1997193429  
TITLE: Differential stimulation of ERK and JNK activities by ultraviolet B irradiation and epidermal growth factor in **human keratinocytes**.  
AUTHOR: Assefa Z.; Garmyn M.; Bouillon R.; Merlevede W.; Vandenheede J.R.; Agostinis P.  
CORPORATE SOURCE: J.R. Vandenheede, Afdeling Biochemie, K.U. Leuven Campus Gasthuisberg, Herestraat 49, B-3000 Leuven, Belgium  
SOURCE: Journal of Investigative Dermatology, (1997) 108/6 (886-891).  
Refs: 35  
ISSN: 0022-202X CODEN: JIDEAE  
COUNTRY: United States  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 013 Dermatology and Venereology  
016 Cancer  
026 Immunology, Serology and Transplantation

029 Clinical Biochemistry  
LANGUAGE: English  
SUMMARY LANGUAGE: English

L20 ANSWER 52 OF 60 HCAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 1997:586086 HCAPLUS  
DOCUMENT NUMBER: 127:230008  
TITLE: The role of endothelin-1 in epidermal  
hyperpigmentation and signaling mechanisms of  
mitogenesis and melanogenesis  
AUTHOR(S): Imokawa, G.; Kobayashi, T.; Miyagishi, M.; Higashi,  
K.; Yada, Y.  
CORPORATE SOURCE: Biological Science Laboratories, Kao Corporation,  
Haga, 321-34, Japan  
SOURCE: Pigment Cell Research (1997), 10(4), 218-228  
CODEN: PCREEA; ISSN: 0893-5785  
PUBLISHER: Munksgaard  
DOCUMENT TYPE: Journal  
LANGUAGE: English

L20 ANSWER 53 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)  
ACCESSION NUMBER: 97:845204 SCISEARCH  
THE GENUINE ARTICLE: YF082  
TITLE: Early plasma membrane events occurring in  
ultraviolet-B-induced apoptosis  
AUTHOR: Albanese J (Reprint); Dainiak N  
CORPORATE SOURCE: MCGILL UNIV, ROYAL VICTORIA HOSP, DEPT MED, MONTREAL, PQ  
H3A 1A1, CANADA (Reprint); YALE UNIV, BRIDGEPORT HOSP,  
DEPT MED, BRIDGEPORT, CT  
COUNTRY OF AUTHOR: CANADA; USA  
SOURCE: STEM CELLS, (OCT 1997) Vol. 15, Supp. [2], pp. 49-57.  
Publisher: ALPHAMED PRESS, 4100 S KETTERING BLVD, DAYTON,  
OH 45439-2092.  
ISSN: 1066-5099.  
DOCUMENT TYPE: Article; Journal  
FILE SEGMENT: LIFE  
LANGUAGE: English  
REFERENCE COUNT: 48

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 54 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)  
ACCESSION NUMBER: 97:782441 SCISEARCH  
THE GENUINE ARTICLE: YB607  
TITLE: Psoralen fatty acid adducts activate melanocyte protein  
**kinase C**: a proposed mechanism for melanogenesis  
induced by 8-methoxypsoralen and ultraviolet A light  
AUTHOR: Anthony F A (Reprint); Laboda H M; Costlow M E  
CORPORATE SOURCE: SCHERING PLOUGH HEALTHCARE PROD INC, RES & DEV, 3030  
JACKSON AVE, MEMPHIS, TN 38151 (Reprint)  
COUNTRY OF AUTHOR: USA  
SOURCE: PHOTODERMATOLOGY PHOTOIMMUNOLOGY & PHOTOMEDICINE, (FEB-APR  
1997) Vol. 13, No. 1-2, pp. 9-16.  
Publisher: MUNKSGAARD INT PUBL LTD, 35 NORRE SOGADE, PO  
BOX 2148, DK-1016 COPENHAGEN, DENMARK.  
ISSN: 0905-4383.  
DOCUMENT TYPE: Article; Journal  
FILE SEGMENT: CLIN  
LANGUAGE: English  
REFERENCE COUNT: 51

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 55 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)

ACCESSION NUMBER: 96:291642 SCISEARCH  
THE GENUINE ARTICLE: UD606  
TITLE: INCREASED SYNTHESIS OF HIGH-MOLECULAR-WEIGHT CPLA(2)  
MEDIATES EARLY UV-INDUCED PGE(2) IN **HUMAN** SKIN  
AUTHOR: GRESHAM A; MASFERRER J; CHEN X; LEALKHOURI S; PENTLAND A P  
(Reprint)  
CORPORATE SOURCE: WASHINGTON UNIV, SCH MED, DEPT MED, DIV DERMATOL, 660 S  
EUCLID AVE, CAMPUS BOX 8123, ST LOUIS, MO, 63110  
(Reprint); WASHINGTON UNIV, SCH MED, DEPT MED, DIV  
DERMATOL, ST LOUIS, MO, 63110; GD SEARLE & CO, ST LOUIS,  
MO, 63110; WASHINGTON UNIV, SCH MED, DEPT MOLEC BIOL &  
PHARMACOL, ST LOUIS, MO, 63110  
COUNTRY OF AUTHOR: USA  
SOURCE: AMERICAN JOURNAL OF PHYSIOLOGY-CELL PHYSIOLOGY, (APR 1996)  
Vol. 39, No. 4, pp. C1037-C1050.  
ISSN: 0363-6143.  
DOCUMENT TYPE: Article; Journal  
FILE SEGMENT: LIFE  
LANGUAGE: ENGLISH  
REFERENCE COUNT: 57  
\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 56 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)  
ACCESSION NUMBER: 96:153486 SCISEARCH  
THE GENUINE ARTICLE: TW686  
TITLE: RAS-INDEPENDENT ACTIVATION OF REL-FAMILY TRANSCRIPTION  
FACTORS BY UVB AND TPA IN CULTURED **KERATINOCYTES**  
AUTHOR: TOBIN D (Reprint); NILSSON M; TOFTGARD R  
CORPORATE SOURCE: KAROLINSKA INST, NOVUM, DEPT BIOSCI, S-14157 HUDDINGE,  
SWEDEN (Reprint); KAROLINSKA INST, NOVUM, CTR NUTR &  
TOXICOL, S-14157 HUDDINGE, SWEDEN  
COUNTRY OF AUTHOR: SWEDEN  
SOURCE: ONCOGENE, (15 FEB 1996) Vol. 12, No. 4, pp. 785-793.  
ISSN: 0950-9232.  
DOCUMENT TYPE: Article; Journal  
FILE SEGMENT: LIFE  
LANGUAGE: ENGLISH  
REFERENCE COUNT: 50  
\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 57 OF 60 SCISEARCH COPYRIGHT 2002 ISI (R)  
ACCESSION NUMBER: 96:168599 SCISEARCH  
THE GENUINE ARTICLE: TW710  
TITLE: ACTIVATION OF MAMMALIAN GENE-**EXPRESSION** BY THE  
UV COMPONENT OF SUNLIGHT - FROM MODELS TO REALITY  
AUTHOR: TYRRELL R M (Reprint)  
CORPORATE SOURCE: SWISS INST EXPTL CANC RES, CH BOVERESSES 155, CH-1066  
EPALINGES, SWITZERLAND (Reprint)  
COUNTRY OF AUTHOR: SWITZERLAND  
SOURCE: BIOESSAYS, (FEB 1996) Vol. 18, No. 2, pp. 139-148.  
ISSN: 0265-9247.  
DOCUMENT TYPE: General Review; Journal  
FILE SEGMENT: LIFE  
LANGUAGE: ENGLISH  
REFERENCE COUNT: 77  
\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L20 ANSWER 58 OF 60 MEDLINE DUPLICATE 12  
ACCESSION NUMBER: 97114625 MEDLINE  
DOCUMENT NUMBER: 97114625 PubMed ID: 8956359  
TITLE: **Ultraviolet radiation** B induces  
differentiation and protein **kinase** C in normal

AUTHOR: **human epidermal keratinocytes.**  
 CORPORATE SOURCE: Matsui M S; Wang N; DeLeo V A  
 SOURCE: Department of Dermatology, Columbia University, New York,  
 New York 10032, USA.  
 PHOTODERMATOLOGY, PHOTOIMMUNOLOGY AND PHOTOMEDICINE, (1996  
 Jun) 12 (3) 103-8.  
 Journal code: 9013641. ISSN: 0905-4383.  
 PUB. COUNTRY: Denmark  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 199703  
 ENTRY DATE: Entered STN: 19970313  
 Last Updated on STN: 19970313  
 Entered Medline: 19970303

L20 ANSWER 59 OF 60 MEDLINE DUPLICATE 13  
 ACCESSION NUMBER: 96171097 MEDLINE  
 DOCUMENT NUMBER: 96171097 PubMed ID: 8570703  
 TITLE: Regulation and inhibition of collagenase **expression**  
 by long-wavelength **ultraviolet radiation**  
 in cultured **human** skin fibroblasts.  
 AUTHOR: Petersen M; Hamilton T; Li H L  
 CORPORATE SOURCE: Department of Internal Medicine, University of Utah School  
 of Medicine, Salt Lake City 84132, USA.  
 CONTRACT NUMBER: P01-HD28528 (NICHD)  
 R29-AR41207 (NIAMS)  
 SOURCE: PHOTOCHEMISTRY AND PHOTOBIOLOGY, (1995 Sep) 62 (3) 444-8.  
 Journal code: 0376425. ISSN: 0031-8655.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 199603  
 ENTRY DATE: Entered STN: 19960315  
 Last Updated on STN: 19960315  
 Entered Medline: 19960304

L20 ANSWER 60 OF 60 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
 ACCESSION NUMBER: 1994:380138 BIOSIS  
 DOCUMENT NUMBER: PREV199497393138  
 TITLE: The effect of **ultraviolet radiation** on  
 the **human keratinocyte** epidermal growth  
 factor receptor.  
 AUTHOR(S): Warmuth, I.; Wang, N.; Kossov, E.; Matsui, M.; Deleo, V. A.  
 CORPORATE SOURCE: Dep. Dermatol., Columbia Univ., New York, NY 10032 USA  
 SOURCE: Photochemistry and Photobiology, (1994) Vol. 59, No. SPEC.  
 ISSUE, pp. 99S-100S.  
 Meeting Info.: 22nd Annual Meeting of the American Society  
 for Photobiology Scottsdale, Arizona, USA June 25-29, 1994  
 ISSN: 0031-8655.  
 DOCUMENT TYPE: Conference  
 LANGUAGE: English

=> d his

(FILE 'HOME' ENTERED AT 09:20:01 ON 19 DEC 2002)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,  
 LIFESCI' ENTERED AT 09:20:23 ON 19 DEC 2002

L1 4 S MLK4

L2 91135 S "ULTRAVIOLET RADIATION"  
 L3 17 S "C-JUN N-TERMIAL KINASE KINASE KINASE" OR "JNKKK"  
 L4 2 S L1 AND L3  
 L5 1 DUP REM L4 (1 DUPLICATE REMOVED)  
 L6 1 S L2 AND L3  
 L7 5732102 S CLON? OR EXPRESS? OR RECOMBINANT  
 L8 12 S L3 AND L7  
 L9 4 DUP REM L8 (8 DUPLICATES REMOVED)  
 E BLUMENBERG M/AU  
 L10 437 S E3  
 L11 1 S L3 AND L10  
 L12 2 S L10 AND L2  
 L13 2 DUP REM L12 (0 DUPLICATES REMOVED)  
 E GAZEL A M/AU  
 L14 1 S E3  
 L15 1483 S L2 AND KINASE?  
 L16 735 S L7 AND L15  
 L17 425 S L16 AND HUMAN  
 L18 89038 S KERATINOCYT?  
 L19 91 S L17 AND L18  
 L20 60 DUP REM L19 (31 DUPLICATES REMOVED)

=> s 120 and 11

L21 1 L20 AND L1

=> d all

L21 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2002 ACS  
 AN 2001:207982 HCAPLUS  
 DN 134:232725  
 TI **Human** genes and polynucleotides encoding novel c-Jun N-terminal  
**kinase kinase kinases MLK4, PAK4,**  
**PAK5, and YSK2 expressed in keratinocytes** and uses  
 thereof  
 IN Blumenberg, Miroslav; Gazel, Alix M.  
 PA New York University, USA  
 SO Eur. Pat. Appl., 51 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC ICM C12N015-54  
 ICS C12N009-12; C07K016-40; C12Q001-68; C12Q001-48; G01N033-68  
 CC 3-3 (Biochemical Genetics)  
 Section cross-reference(s): 1, 7, 13, 15  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1085093	A2	20010321	EP 2000-307866	20000912
	EP 1085093	A3	20021030		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001157590	A2	20010612	JP 2000-284980	20000920
PRAI	US 1999-155029P	P	19990920		
AB	The invention relates to novel <b>human</b> polynucleotides and their encoded gene products which are the c-Jun N-terminal <b>kinase</b> <b>kinase kinases MLK4, PAK4, PAK5, and YSK2.</b> CDNAs encoding novel proteins with sequence homol. to c-Jun N-terminal <b>kinase kinase kinases</b> were <b>cloned</b> from <b>human</b> epidermal <b>keratinocytes</b> by RT-PCR using primers which correspond to the <b>kinase</b> domain. MRNAs for these <b>kinases</b> were detected in various tissues, including <b>keratinocytes.</b> <b>Expression</b> of the PAK5 mRNA is induced				



by UV-A light, while YSK2 mRNA is induced by UV-C light. A complete genomic sequence for the **human PAK5** gene was obtained. The PAK5 gene was mapped to **human** chromosome 15 by its phys. linkage to a PLC-2 gene in a P1 genomic **clone**. The invention claims polynucleotides which are homologous to **MLK4**, PAK4, PAK5, and YSK2 genes and which can be detected using probes derived from the claimed sequences. In addn., the invention claims methods of using the disclosed polynucleotides and their gene products in drug discovery, esp. in screening for drugs that can reduce UV light-induced damage of the skin and inflammation.

- ST sequence cDNA **human PAK4 MLK4** YSK2 protein  
**kinase JNKKK**; PAK5 gene JNK **kinase keratinocyte**  
UV induction mRNA
- IT Protein motifs  
(JNKKK **kinase** domain; **human** genes encoding novel protein **kinases MLK4**, PAK4, PAK5, and YSK2 **expressed in keratinocytes**)
- IT Kidney  
Pancreas  
(PAK4 and **MLK4**; tissue **expression** of **human** genes encoding novel c-Jun N-terminal **kinase kinase kinases MLK4**, PAK4, PAK5, and YSK2)
- IT Brain  
(PAK4, PAK5; tissue **expression** of **human** genes encoding novel c-Jun N-terminal **kinase kinase kinases MLK4**, PAK4, PAK5, and YSK2)
- IT Genetic linkage  
(PAK5 gene; **human** genes encoding novel c-Jun N-terminal **kinase kinase kinases MLK4**, PAK4, PAK5, and YSK2 **expressed in keratinocytes**)
- IT UV A radiation  
(PAK5 gene; **human** genes encoding novel c-Jun N-terminal **kinase kinase kinases MLK4**, PAK4, PAK5, and YSK2 **expressed in keratinocytes** and in response to UV light)
- IT UV C radiation  
(YSK2 gene; **human** genes encoding novel c-Jun N-terminal **kinase kinase kinases MLK4**, PAK4, PAK5, and YSK2 **expressed in keratinocytes** and in response to UV light)
- IT Transcriptional regulation  
(activation; **human** genes encoding novel c-Jun N-terminal **kinase kinase kinases MLK4**, PAK4, PAK5, and YSK2 **expressed in keratinocytes** and in response to UV light)
- IT Proteins, specific or class  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(complexes; **human** genes encoding novel c-Jun N-terminal **kinase kinase kinases MLK4**, PAK4, PAK5, and YSK2 **expressed in keratinocytes** and useful for drug discovery)
- IT Probes (nucleic acid)  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(for **MLK4**-, PAK4-, PAK5-, or YSK2-related; **human** genes encoding novel c-Jun N-terminal **kinase kinase kinases MLK4**, PAK4, PAK5, and YSK2 **expressed in keratinocytes** and useful for drug discovery)
- IT Gene, animal  
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study);

- OCCU (Occurrence); USES (Uses)  
 (for protein **kinase** PAK5; **human** genes encoding novel c-Jun N-terminal **kinase kinase kinases MLK4**, PAK4, PAK5, and YSK2 **expressed in keratinocytes**)
- IT Gene, animal  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (for protein **kinases MLK4**, PAK4, and YSK2; **human** genes encoding novel c-Jun N-terminal **kinase kinase kinases MLK4**, PAK4, PAK5, and YSK2 **expressed in keratinocytes**)
- IT Chromosome  
 (human 15, PAK5 gene; **human** genes encoding novel c-Jun N-terminal **kinase kinase kinases MLK4**, PAK4, PAK5, and YSK2 **expressed in keratinocytes**)
- IT Molecular cloning  
 (human genes encoding novel c-Jun N-terminal **kinase kinase kinases MLK4**, PAK4, PAK5, and YSK2 **expressed in keratinocytes**)
- IT mRNA  
 RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); OCCU (Occurrence); USES (Uses)  
 (human genes encoding novel c-Jun N-terminal **kinase kinase kinases MLK4**, PAK4, PAK5, and YSK2 **expressed in keratinocytes**)
- IT Antibodies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (human genes encoding novel c-Jun N-terminal **kinase kinase kinases MLK4**, PAK4, PAK5, and YSK2 **expressed in keratinocytes**)
- IT Animal cell  
 Animal tissue  
 Skin  
 Stress, animal  
 UV radiation  
 (human genes encoding novel c-Jun N-terminal **kinase kinase kinases MLK4**, PAK4, PAK5, and YSK2 **expressed in keratinocytes** and in response to UV light)
- IT Drug screening  
 Laboratory animal  
 Molecular association  
 (human genes encoding novel c-Jun N-terminal **kinase kinase kinases MLK4**, PAK4, PAK5, and YSK2 **expressed in keratinocytes** and useful for drug discovery)
- IT Cytokines  
 RL: ADV (Adverse effect, including toxicity); BIOL (Biological study) (inflammatory; **human** genes encoding novel c-Jun N-terminal **kinase kinase kinases MLK4**, PAK4, PAK5, and YSK2 **expressed in keratinocytes** and useful for drug discovery)
- IT Skin  
 (keratinocyte, PAK4, PAK5, **MLK4**; tissue **expression** of **human** genes encoding novel c-Jun N-terminal **kinase kinase kinases MLK4**, PAK4, PAK5, and YSK2)
- IT DNA sequences

(of PAK5 gene isolated from **human**)

IT Protein sequences  
cDNA sequences  
(of protein **kinases MLK4**, PAK4, PAK5, and YSK2  
isolated from **human**)

IT 247196-35-6 330487-79-1 330556-53-1 330556-59-7 330556-60-0  
330556-62-2  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
(Biological study)  
(amino acid sequence; of **human MLK4**, PAK4, PAK5,  
and YSK2 **kinases**)

IT 330457-49-3, c-Jun N-terminal **kinase kinase**  
**kinase**  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(**human** genes encoding novel c-Jun N-terminal **kinase**  
**kinase kinases MLK4**, PAK4, PAK5, and YSK2  
**expressed in keratinocytes**)

IT 220064-77-7, Protein **kinase** PAK4 247112-13-6, Protein  
**kinase** PAK5 330457-81-3, **MLK4** protein **kinase**  
330457-84-6, Protein **kinase** YSK2  
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological  
study); USES (Uses)  
(**human** genes encoding novel c-Jun N-terminal **kinase**  
**kinase kinases MLK4**, PAK4, PAK5, and YSK2  
**expressed in keratinocytes**)

IT 330487-77-9 330487-78-0  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
(Biological study)  
(nucleotide sequence; DNA sequence of **human MLK4**,  
PAK4, PAK5, and YSK2 **kinases**)

IT 330487-73-5 330487-74-6 330487-75-7 330487-76-8 330490-57-8  
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
(Biological study)  
(nucleotide sequence; cDNA sequence of **human MLK4**,  
PAK4, PAK5, and YSK2 **kinases**)

IT 330491-84-4 330491-85-5 330491-86-6 330491-87-7 330491-88-8  
330491-89-9  
RL: PRP (Properties)  
(unclaimed nucleotide sequence; **human** genes and  
polynucleotides encoding novel c-Jun N-terminal **kinase**  
**kinase kinases MLK4**, PAK4, PAK5, and YSK2  
**expressed in keratinocytes** and uses thereof)

=> d his

(FILE 'HOME' ENTERED AT 09:20:01 ON 19 DEC 2002)

FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,  
LIFESCI' ENTERED AT 09:20:23 ON 19 DEC 2002

L1 4 S MLK4  
L2 91135 S "ULTRAVIOLET RADIATION"  
L3 17 S "C-JUN N-TERMIAL KINASE KINASE KINASE" OR "JNKKK"  
L4 2 S L1 AND L3  
L5 1 DUP REM L4 (1 DUPLICATE REMOVED)  
L6 1 S L2 AND L3  
L7 5732102 S CLON? OR EXPRESS? OR RECOMBINANT  
L8 12 S L3 AND L7  
L9 4 DUP REM L8 (8 DUPLICATES REMOVED)  
E BLUMENBERG M/AU  
L10 437 S E3  
L11 1 S L3 AND L10

L12            2 S L10 AND L2  
L13            2 DUP REM L12 (0 DUPLICATES REMOVED)  
              E GAZEL A M/AU  
L14            1 S E3  
L15           1483 S L2 AND KINASE?  
L16            735 S L7 AND L15  
L17            425 S L16 AND HUMAN  
L18           89038 S KERATINOCYT?  
L19            91 S L17 AND L18  
L20            60 DUP REM L19 (31 DUPLICATES REMOVED)  
L21            1 S L20 AND L1

=>

	<del>Issue Date</del>	Pages	Document ID	Title
1	20020808	13	US 20020107218 A1	Inhibition of stress activated protein kinase (SAPK) pathway and sensitization of cells to cancer therapies
2	20020711	128	US 20020090624 A1	Gene markers useful for detecting skin damage in response to ultraviolet radiation

	<del>Issue Date</del>	Pages	Document ID	Title
1	20020813	35	US 6432962 B1	Benzophenones as inhibitors of IL-1.beta. and TNF-.alpha.
2	20020711	128	US 20020090624 A1	Gene markers useful for detecting skin damage in response to ultraviolet radiation
3	20020207	30	US 20020016347 A1	Benzophenones as inhibitors of IL-1beta and TNF-alpha
4	20000307	35	US 6033910 A	Antisense inhibition of MAP kinase kinase 6 expression
5	19971021	69	US 5679511 A	CDNA clones for a regulatory protein in the melanin-production pathway

	L #	Hits	Search Text
1	L1	1	"mlk4"
2	L2	0	"c-jun N-terminal kinase kinase kinase\$2"
3	L3	2	"JNKKK"
4	L4	23785	"ultraviolet radiation"
5	L5	479807	clon\$3 or express\$3 or recombinant
6	L6	28810	kinase\$3
7	L7	491	14 same 15
8	L8	5	17 same 16
9	L9	18	blumenberg.in.
10	L10	1	14 and 19